

*Dr. Mogli's Self-Learning 5-in-1Book
MadeEasy-3000-Questions&Answers for*
HIM & Health Informatics Professionals

Author

Prof. Dr G D Mogli, PhD MBA FHRIM (UK) FAHIMA (USA)
(Father of Medical Records of India and the Middle East)
(Known as Champion of Developing Countries by IFHIMA (World))
CEO & MD Mogli's Management Education & Research
Centre for Health Excellence (Dr.Mogli's MERCHE)
Visiting Professor, Medical Informatics,
MGIM Sciences, Sevagram, Maharashtra, India.
Ex.WHO Consultant, Sr.eHealth Management, HEARTCOM (USA)
Sr.Consultant / Adviser to Ministries of Health,
India, Afghanistan, Iran, Kuwait, Saudi Arabia, Oman, Bahrain, Qatar & UAE.
www.drmoqli.com gdmogli@yahoo.com Phone: +91 9949750983

DEDICATED To

Medical Records Management (MRM) and Health Informatics Professionals of
Developing Countries including India and the Ministry of Health and Family
Welfare, Government of India

PREFACE

In the study and practice of medicine and other allied paramedical fields, there is a constant need for guiding principles, brief summaries of subjects related to the allied medical sciences, and explanations of techniques and procedures required to learn. It is evident that any medical, nursing, and paramedics cannot become proficient in their respective fields without having teamwork among the medical, nursing, and other allied health science professionals and also being part of global development in the advancement of medicine.

The most vital element is the “Record” This is the only major and primary document in the hospital that will reflect like a “Mirror” exactly what has been done; how it was done, why it was done; who did it, and when, and so on. Also indicates the reasons for success or failure that will include other most vital allied departments such as Laboratory, radiology, pharmacy, nutrition, and many more that are involved either directly or indirectly with patient care. The next element is “Quality” which is to ensure that the care rendered is within the prescribed national or international standards. Another element is the “Cost”. Of late, the cost is so vital for making good hospitals, providing excellent service by highly qualified experts and world-class care; need huge finance to be invested. Thus need to work out how to economize the cost. The last most vital component is “Managing” if all the services are synchronized as a good team; all the other five constituents can be achieved and the best possible optimum care could be rendered.

The book has Dr. Mogli’s Oath of Ten AUSPICIOUS Commandments for all Healthcare Professionals. Ten AUSPICIOUS Commandments are strongly suggested as they comprehensively cover all healthcare professionals’ responsibilities. If scrupulously executed will outshine and succeed. All those who practice the HIM profession have to take Dr. Mogli’s Oath that will make them realize their aim to complete the MRM/HIM and Health Informatics Professionals and Students program with devotion to improve their knowledge, skills, and positive attitude as fully confident persons and earn a valuable certificate or diploma, degree or masters as a testimony of qualified professional. For those who never had any professional education in MR or HIM field, this “3000 Question and Answer Self Learning Book which is made easy for any candidate to learn by reading the question and answer. Dr. Mogli’s Management Education Research Centre for Health Excellence (Dr. Mogli’s MERCHE) providing Free education program will conduct exam every year in June and December; can appear and if successful will earn a certificate in CHT (Certification in Health Technology) or CMT (Certification in Management Tutor). For those already professionally qualified, this is a very practical book that will guide them at every level in their day-to-day work in accomplishing any challenging assignment and then lead to continuous progress in their professional status.

In the course of my five-decade career as a WHO Consultant; medical record administrator, educator, consultant, and adviser, dealing with health professionals in diverse organizations, in nine different nations and partly some other countries felt the need for such a concise practical book. In view of the following Passing of the Parliament

Act, the need for such a book is a must.

Parliament passed the Act, recognizing Health Information Management (HIM) and Health Informatics Professionals (HP) under ISCO No. 3252. The Ministry of Health and Ministry of Law and Justice, New Delhi enacted as National Commission for Allied Health and Healthcare Professional Act-2021 No. 14 of 2021 dated 28th March 2021. The need for this book has gained momentum.

“Dr. Mogli’s “3000 Question and Answer Self-Learning Managing Modern Medical Records Book comprising Anatomy, Physiology, Medical Terminology, Healthcare including Hospital services, Medical Records-manual and electronic (digital) and Administration”. The book is unique in the sense; more than theoretical, and fully practical to enable HIM professionals or students should have clear knowledge, skills, and workable attitudes to perform the set job much easier in a short period with optimal results.

The book has 32 chapters, 2 annexures, and a bibliography. The book includes the Introduction to the title of the book, followed by Dr. Mogli’s Oath of Ten AUSPICIOUS Commandments reminding factors to HIM professionals of their expected responsibilities. To have hands-on experience; the 3rd chapter deals with the application of “AUSPICIOUS” Commandments to cover the entire functions of the MRD or the MRO’s responsibilities. Another chapter on “Dr. Mogli’s Progression of Ten OCCUPATION Commandments” emphasizes obtaining the knowledge and skills and competing with highly qualified persons to secure a good job and how to continuously make efforts to gain modern expertise to meet the needs of the 21st century making best use of the facilities and time to contribute novel service to outshine and succeed in his or her profession. “Prof. Dr. Mogli. And what is his contribution to HIM filed nationally and internationally? As part of HIM practical education conducted in the year 2022, a two-day International Conference including two workshops and the topics covered in the two-day deliberation are incorporated in the question bank. The question answer comprises a few presentations of distinguished speakers from India and overseas and messages from Global.

The book is fully practical and a well-prepared Goldmine for HIM professionals with 3,000+ Brainstorming Quiz Questions and Answers to more than 2,500 questions. Some topic-wide questions are to be answered by the candidates as an exercise. All the subjects are converted into practical questions and precise answers so that the reader can easily adapt for practical usage. “Patient and the potential problems encountered by him/her. Healthcare includes briefly all hospital facilities and the nursing dynamic services touch on patient’s issues. Medical Records consist of manual and electronic including Artificial Intelligence deals with maintaining scientific digital records for efficient patient care. The International Classification of Diseases elaborates proper classification of diseases by the WHO. The question bank deals with the Strategic role of the National HIM Association- present, past, and how it should play in the future in building a robust HIM profession in any nation; and the role of the International Federation of Health Information Management Association (IFHIMA) including the 20th Century and growth in 21st Century. It is clearly evident that unless HIM

professionals want to succeed need to be selfless and dedicated then and then only can accomplish the set goal. This was clearly evident in IFHIMA history and six persons representing globally served and sacrificed decades for the promotion of the profession and their names were highlighted to inspire the future young professionals to do their best.

Management topics include leadership, motivation, and communication skills to achieve a good quality of service economize health services expenditure effectively manage legal issues, and meet the needs of hospital accreditation by JCI or NABH. The questions and answers deal with the following subjects Healthcare Delivery and Management; Hospital Services, Outpatient and Inpatient services, Nursing Dynamic Service in Patient care, Managing hospital services, Quality Assurance, Medical Records manual as well as digital or electronic, International Classification of Diseases. Managerial methods for effective organization; Hospital statistics and bed allocation; Dr. Mogli's formulae for calculating Bed-Occupancy Rate with and without Day Care Cases; Mogli's Ready Reckoner for Counting Hospital Days (LOS). Role of Central, State, Government, and Hospital Director in the development and managing of the HIM department; growth of electronic health records; medico-legal aspects of manual and electronic health records.

The question bank besides the above comprises Dynamic Questions and Answers for basic health sciences; and medical terminology with terms and meanings. Brainstorming Questions with answers; Brainstorming Topic-wide Quiz Question Bank. Project Assignments. Brainstorming Quiz Question Bank for HIM & Health Informatics Professionals. Explanation of medical specialties, glossary terms used in Software structure for EMR, and E.H.R terminology, and finally Brainstorming brief questions and answers for Oral examination and Interviews for HIM and Health Informatics Professionals.

This book will be of immense value to all those who intend to work or working in MRD/HIM and Health Informatics professionals, and all healthcare professionals e.g. doctors, nurse paramedical, medico-legal personnel, insurance, etc. The healthcare policy and decision makers and even the Ministry of Health, organizers of healthcare institutions including primary health centers, secondary, tertiary, care hospitals, and healthcare involved software companies; universities; colleges and institutes of hospital administrative educational programs including the Electronic Health Records, Health Information Management and paramedical courses and research institutions need to use this book is a masterpiece and good nutritious food for all the honorable readers including students of all healthcare fields will lead in managing globally efficient optimal hospitals.

Prof. Dr. G.D. Mogli, Ph.D., FHRIM (UK), FAHIMA (USA)

Acknowledgments

In the course of experience gained in nine nations by serving in the Ministries of Health at the national level as Senior Medical Record Consultant Adviser and WHO Consultant from 1981 to 2008, in all the six Gulf Cooperative Council (GCC) Countries (Kuwait, Saudi Arabia, Bahrain, Qatar, UAE, and Oman). Apart from this, I also served in India and Afghanistan from 1966 to 1980. With this background, the author felt the need of the hour to provide a concise but practical manual “Dr. Mogli’s Practical Book for HIM and Health Informatics Professionals”. The book will be handy for every HIM professional.

The author conveys his sincere gratitude to State Health Ministers and Deputy Ministers of Gulf Cooperation Council (GCC) Countries and other administrators, and professional colleagues of India, Afghanistan, Iran, Kuwait, Kingdom of Saudi Arabia, Oman, Bahrain, Qatar, and the United Arab Emirates (UAE), and other nations for their support, encouragement and cooperation and my sincere and special gratitude to the following officials too.

H.E. Dr. Saleh H. Al Tuwajiri, Ph.D., (USA), Secretary-General of the Arab Red Crescent and Red Cross Organization (ARCO), Ex-Vice President (Deputy Minister rank), Red- Crescent, Assistant Minister of Health, MOH, Riyadh, Kingdom of **Saudi Arabia**.

Dr. Saadoun Faris Al Azmi, MS (HIM) & Ph.D. (USA) Professor, College of Health Sciences, The Public Authority for Applied Education and Training, **KUWAIT**.

Dr. Raniya Al Kiyumi, BSc. HIM (Kuwait Univ.) MHIM, and Ph.D., (Aust) Sr. Lecturer, & Associate Deanship for HIM, Oman College of Health Sciences, MOH, **OMAN**.

Mr. Sudish Mogli, Vice President of Engineering, BeeKeeperAI Inc. California, **USA**.

Mr. Narendar Sampath Kumar, MA, BMRSc, PGDCS, CHRIM (UK), Sr. Group Medical Record Manager, Welcare Hospital, Dubai, **UAE**.

Mr. Deepak Vikram **Nellore**, MBA, BMRSc, (HIM), CHRIM (UK), DMRS (USA) Program Officer – Digital Health **CIS Project / Clinical Applications / Operations**. Prince Edward Island, Health Authority, PEI, **CANADA**.

Mr R. Selvakumar, MA, MS, PGDHM, BMRSc, ACC (UK), AHRIM (UK) **Team Leader Clinical Coding**, UCLH/ Moorfields Eye Hospital RNTNE, **London, UK**.

Mrs. Mary Stell Alexander, BSc, BMRSc, CHRIM (UK), Ex. Medical Record Manager, Hamad General Hospital, Doha, State of **Qatar**.

And lastly, I owe my sincere gratitude to my family for their unconditional support in my professional work.

Table of Content

Chapt No.	Subject	Page No.
	Author Title	1
	Dedicated to	2
	Preface	3
	Acknowledgments	6
	Content of the book (Index)	7
1	Introduction to Professional Success	9
2	Dr. Mogli's Oath of Ten AUSPICIOUS Commandments	21
3	Practical implementation of Dr. Mogli's Oath of Ten AUSPICIOUS Commandments	23
4	Dr. Mogli's Progression of Ten OCCUPATION Commandments	30
5	Who is Dr. Mogli? And what his contribution nationally and internationally to the HIM field!	32
6	Dr. Mogli's Formula for calculating Bed Occupancy Rate with and without Day Care Cases	37
7	Dr Mogli's Ready Reckoner for Counting Hospital Days (LOS)	40
8	Terms and Definitions used in Healthcare Management with 270 Question and Answer format.	42
9	Anatomy and Physiology	54
	Human Body, Structure and Functions of Cell (54)	
	Tissue (56), Organ and System (59) Body Cavities (62)	
	Anatomical Division of the Back (64), Bones & Skeleton (67)	
	Names of Reg. bones (70) Human body (71), Muscular (72)	
	Cardiovascular (73), Blood & Lymphatic, and Immunity (74)	
	Nervous (76), Digestive (78), Endocrine (79)	
	Respiratory (81), Sense Organs (82), Excretory (84)	
	Reproductive (86), Oncology (87), Psychiatry (89)	
	Medical Psychology (90)	
10	Medical Terminology – Colors (385), Numerals (386)	93
	Suffixes –(96); Roots-(99); Prefix- (102)	
11	Medical Terminology with Terms and Meanings (300)	106
12	1050-Brainstorming Questions (Answers at chapter 13)	114
13	Answers to Brainstorming Questions (Chapter 12)	151
14	Healthcare Delivery and Management with 22 Question and Answer format.	160
15	Hospital Services with 24 Question and Answer format.	164
16	Outpatient Service with 9 Question and Answer format.	170
17	Inpatient Service with 11 Question and Answer format.	173
18	Nursing Dynamic Service in Patient Care with 30 Question and Answer format.	176
19	Managing Hospital Services with 25 Question and Answer format.	185
20	Quality Assurance with 22 Question and Answer format.	191

21	Medical Records Manual with 290 Question and Answer format.	195
22	International Classification of Diseases with 20 Question and Answer format.	245
23	Electronic (Digital) Health Records E.H.R with 176 Question and Answer format.	248
24	Managerial Methods for Effective Organization with 32 Question and Answer format.	298
25	70 Dynamic Questions and Answers for Basic Health Sciences with 70 Question and Answer format.	312
26	Brainstorming Topic-wide Quiz Question Bank with 280 Questions.	326
27	Brainstorming Project Assignment with 100 Assignments	338
28	Brainstorming Quiz Question Bank for HIM and Health Informatics Professionals with 280 Questions	344
29	Explanation of Medical Specialties with 44 Question and Answer format.	352
30	Explanation of Glossary of Terms used in Software structure for EMR with 88 Question and Answer format.	355
31	Explanation of E.H.R. Terminology with 55 Question and Answer format.	361
32	Brainstorming brief questions and answers for Oral examination and Interviews for HIM & Health Informatics Professionals	366
Annex I	Standard Abbreviations with a single meaning	418
Annex: II	Symbols	432
	Bibliography	434
	Salient features of the book and Author's brief portfolio	437

I	Introduction to Professional Success
----------	---

Professional Success: One has to realize; career goals, and their importance, and learn to develop professionally. We are today in a very competitive world; any new related learning is an investment in your career bank; which will fetch you higher positions enhanced salaries and great self-esteem. Professional growth focuses on gaining new knowledge, experience; and skills to be positive and understand the current situation adjust and adapt to the organizational needs of the profession; keep the Ego aside, and be humble to accomplish our goals. Most HIMs need to execute the “Earning and Learning” process throughout their career. Acquired knowledge and skills will give you tremendous self-confidence that makes you accept more responsibilities which is a vital key to getting closer to policy and decision-makers. One has to take boldly to lead if required; pursue the role required for education; to gain the essential knowledge and the skills to take up a large project with more staff and budget to supervise and prove your management effectiveness.

How it is possible: Decide about your expectations: obtain required qualifications; earn professional specialized certificates, learn new technology and use optimize your time for the work; Innovate the management needs and its challenges and what contribution you can make to solve the issues to make the institution optimal and efficient. One should always be ready to lead and be a mentor and bold steps leaving a safe-zone mentality; and also prefer to carry the work after taking orders from the boss, or other higher officials; instead, be ready to take on competitive corporate challenges not only to survive but to excel as a pioneer. When you are loyally involved in the given work; you will instinctively acquire the required knowledge and skills rapidly to execute the task not in a given time but even earlier. When you are in the process; don't expect everything will go smoothly; there will be lots of bumps and snags; your confidence and good work will influence you to meet the unexpected and unwarranted jolts. Remember; try to achieve the goals selflessly instead of hoping to get something; if I do this, I will get that, etc. Just blindly accomplish the set goal by focusing with full commitment to achieve in record time that should be your ultimate aim. To do this, you should be disciplined, punctual, and time-conscious, humble; and nothing derails or deviates from your mission; in simple terms any professional success means is the process of learning to gain knowledge, acquiring skills, and, training others to master the subject and to be unique; by exploring new methods and information by all possible ways and means to accomplish high influence that lead to professional growth. When a professional succeeds in gaining status; and becoming and holding a very high position; this shouldn't get into the head. If that happens then the downfall doesn't have much time. “Construction of a giant building takes years and destruction takes few minutes to hours.”

The HIM and Health informatics Professionals are well equipped with their expertise to elevate the profession and impact healthcare and power innovation in the field, the author of this book expects you as a potential promising professional need to do the following to get motivated to outshine and succeed to be a global expert.

- Acquire proper academic and professional knowledge, skills, and a positive attitude
- Celebrate your accomplishments that will boost you to do better & better
- Invent something new and exciting about the HIM to perform better
- Network with other HI professionals to outshine and succeed
- Share the professional success with others so that the HIM can grow
- Respect and value that HI professionals bring to their organizations.
- Inculcate HIM education throughout to make the HIM field most robust
- Demonstrate throughout my professional career devoted to improving patient outcomes and their welfare in every aspect.

HIM Professionals feel acknowledged empowered and confident: Every Health Information/ Informatics Professional should be acquainted with the required academic and professional qualifications, specialized experience in the chosen field including the latest technologies; and skills that are required to practice the profession, and a positive attitude with full of optimism to feel acknowledged, empowered, and confident when you join in a new job or new assignment any work that required to be done to be considered a challenge and perform with utmost care and a meticulous way to improve patient outcomes and care. You must know that you are specialized like any specialist in the healthcare field. For example; when a qualified Surgeon operates surgery on a patient in the Operation theatre - none including the Health Minister, Director General of Health Services, or CEO of the institution has the right to interfere and suggest during the surgery. He is the master of his/her work and for good and bad outcomes he/she is fully responsible. All surgeons are highly respected for their skillful service and similarly you also in your own field a great surgeon tries not only to do routine elective and emergency surgery but with a dedication to finding a way with expertise research to find out what other ways you can help the healthcare institution; healthcare providers in their effort to do their best in swift, safe, improved and cost contained care. Medical records are not only the mother of information but they can Make or Break the healthcare institution. Besides that, it is a Goldmine –the more you dig; the more you get. Those who have practiced are enjoying the highest positions with name, fame, and self-esteem within and outside the nation. Precisely the entire healthcare quality care image can be seen in the **clean** imported Mirror – **that is Medical Record** that reflects the entire patient healthcare process.

Every new assignment or job that you have is due to past experience and good work, but a new job needs evidently wholly different inputs and insights to succeed. You are scanning for some time whether you are able to meet their expectations; if not; you lose the importance and you may continue but under goodwill, which is not good for an expert professional. In your every movement or walk while in the position, be extremely professional and equipped with the latest knowledge and skills to undertake a given task. The following are some of the vital points not limited to; is brought to the knowledge of professional readers to observe meticulously to outshine and succeed in the profession.

1. Manage time that is vital be always be on time or a little before.
2. Clearly laid down the process as to what to do that day
3. Contribute new ideas systems and methods to organizers`
4. Wear executive dress throughout your professional work
5. Put forward your innovative ideas listen carefully to others' views and accept criticism in a sportive manner
6. Schedule your day for professional and personal work to accomplish the daily planned tasks.
7. Practice humility in dealing not only with higher but also with all others.
8. Avoid shyness to be daring to take leadership activity in the meetings
9. Never try to use any personal favors of higher authorities that will hamper your long-run progress in many ways.
10. Learn new ways of doing by acquiring the latest knowledge and skills.
11. Expand by searching for the latest related information for your undertaken projects
12. Lead others with your information and get feedback to improve yourself
13. Publish your work in reputed journals that will help in writing books.
14. Try to be independently carried out; where necessary take the opinion of others and if you start building any project depending on others it may succeed but chances are more can lead to utter failure.
15. Never take up any project or vital program hoping that your known higher officials or relation positions will help; in that case; you will rarely succeed but failure is almost sure. Even if you succeed; you cannot take the credit.
16. Maintain good health; by eating good food (which doesn't mean expensive); sleeping; doing daily exercise, and having a positive mind; and keeping fully busy with your well-planned tasks. Make your work like playing a game- we never get tired.
17. Undertake many selfless and financial sacrifice services to help the needy professionals that will go a long way as a good motivator, teacher, or monitor. Don't run behind the money; instead, run behind the work you undertook. Money will follow you later like your shadow
18. Try to motivate and inspire others with your unique work; accomplishments that must be a practical example to touch and see.

19. Participate in and conduct conferences; seminars symposiums and workshops that will enlighten your work thru published articles and books to the audience.

20. Bring out your inner caliber; each one of us has a hidden caliber that has to be brought out with boldness and ready to face the worst consequences then you will find tremendous outcomes unimaginable for others is a “great sacrifice”.

HIM Professional Role: The HIM profession plays a vital role in the entire healthcare field. The HIM Manager is the custodian of the health information of patients; the entire comprehensive healthcare data generated by healthcare providers rests with the patient record that is maintained by the HIM Department. The HIM professional role has not been exploited to the optimum. Most of the nation’s HIMs remain passive and do not play the role as expected. The topics should be on how to make HIM education that will turn the HIM professional vibrant and robust to play their role in providing efficient and effective healthcare to one all through well well-organized and efficiently managed HIM department that should assume the responsibilities of tuning the entire hospital system in collaboration of management including all healthcare providers and associated allied departments in maintaining the services to provide swift, safe, quality improved and cost contained care.

Health information managers are responsible for information governance that includes ensuring enterprise-wide health data integrity, privacy, and security. It has to be realized that medicine is dynamic due to environmental and health challenges; and newly appearing diseases that lead to continuous research have enlightened many innovative drugs, instruments, and techniques to deal with unique problems. Besides this, information and communication technology is also advancing at a high pace; the HIM capabilities with the HIM Cycle need to catch up to fulfill the responsibilities by adapting the latest capabilities that will provide effective and efficient service for which this profession has been born and exists. The health field and technology are not static, and are transforming much faster than expected; the HIM field cannot be static, and its capabilities need to be upgraded from time to time to move parallel with the healthcare delivery system.

Some of the HIM main responsibilities may include very special capabilities (synonymous with terms; abilities; aptitude, competencies; experience, Know-how, proficiencies; and **skills**) such as: Accepting challenges; Accuracy; Achieving; Adaptability; Administrative; Alertness; Analytical; Assertiveness, Budgeting; Business; Collaborate, Cooperate; Communicate; Commitment; Critical thinking; Developing; Devotion to Details; Embracing EHR; Excelling; Innovation; Inspire; Interpretation; Leading; Listening; Managing; Motivate; Observing Ethics;

Organizing; Quality-performance; Problem-Solving; Researching; Self-Confidence; Serving society: surveying; Teaching; Teamwork; Time management; Technical; vision.

The following are some of the points that are not limited but needed to practice as an HIM Professional to Outshine and Succeed in the HIM Profession.

- Competent to survey in a healthcare organization to find out the current situation and compatible with the institution's objectives and HIM needs
- Ability to discuss with the decision-makers and policymakers of the organization to provide his / her expertise
- Holding discussions with the healthcare providers including medical, nursing, paramedics, and others to enlighten the HIM work standards, policies, and procedures
- Orient the approved standards, policies, procedures, and HIM system practiced in the hospital.
- Organize a new HIM department by equipping, recruiting, and training staff, in the entirely new hospital coordinate and collaborate with the clinical, labs, radiology, pharmacy, and other departments that are directly and indirectly related to patient care and contribution to patient records.
- Implement systems and processes to support accurate, timely, relevant, and complete medical record documentation
- Work with healthcare professionals to improve the quality of documentation
- Work with coding staff specialized in ICD-9/10-CM, CPT, HCPCS, SPGs, or the latest developed ICD-11 or ICD-10 or 11 CM and others to ensure accurate coding for reimbursement and clinical care finding rare diseases that occur
- Comply with state and federal laws and standards related to privacy, security, and record completion
- Track and trend audits and denials from third-party payers and auditors
- Prepare and analyze clinical data to provide swift, safe, improved patient care and research purposes, optimal utilization management, mandatory reporting, and more
- Participate in administrative committees to address topics such as electronic health record implementation and process improvement for providing the best possible care and outcome.
- Prepare department budgets and indicate where the cost control can be effected
- Manage projects efficiently to assist the clinical team and hospital management in achieving its objectives

- Analyze clinical and financial data in collaboration with the relevant professionals or units to look for trends and opportunities for an optimal outcome to reduce the cost of patient care
- Draft department- and hospital-wide policies and procedures to achieve the institution's goal
- Submit compliance data to external agencies such as the Centres for Disease Control and Prevention (CDC) and Centres for Medicare & Medicaid Services (CMS) or any authorized public health or curative agencies.
- Perform continuous quality improvement activities for external accrediting agencies such as the Joint Commission or any such equivalent organizations.
- Work with third-party payers and agencies to comply with audits to ensure the right payment is made to all involved parties.
- Provide and oversee ongoing training throughout the health system for things such as documentation guidelines, EHR user training, HIPAA compliance, and other matters that require priorities from time to time to meet the challenges anticipated and unexpected
- Play an important role as HIM professionals in patient safety as hospitals and ministries use the data they collect and analyze to:
- Ensure that patient information is secure and protected Improve healthcare quality by reducing medical errors, and health disparities, and by advancing the delivery of patient-centered medical care
- Reduce healthcare costs resulting from inefficiency, medical errors, inappropriate care, duplicative care, and incomplete information
- Provide appropriate information to help guide medical decisions at the time and place of care
- Improve the coordination of care and information among hospitals, laboratories, physician offices, and other entities for the secure and authorized exchange of healthcare information
- Improve early identification and rapid response to public health threats by carrying out concurrently coding the cases. Any unusual incidence can be reported to public health for prompt action to prevent from epidemic or endemic like the COVID-19 Pandemic.
- Facilitate health and clinical research to enhance the quality of healthcare
- Promote early detection, prevention, and management of chronic diseases.

Role of HIM Manager when he/she joins any institution:

When an HIM manager joins any institution; there are two possible issues he/she encounters: firstly; the effectiveness of the HIM department and, the problems of the patient in the hospital that normally hampers the smooth

functioning of the institution. Secondly, if he joins an entirely new institution, he needs to develop from scratch; or some hybrid type of hospital' he needs to understand both the outcome of the two tables given below; besides; the opinion of management and other clinical and non-clinical including MRD staff.

The following two Questionnaires are in the form of tables related to 1. The infrastructure of the HIM department and the sand functional needs of the department. 2. Patient problems while getting care in the hospital are incorporated for the benefit of HIM personnel.

Questionnaire 1: HIM Infrastructure including functional needs

How to complete the questionnaire? Please quote the question number and record your problems in bullet points clearly. Not necessary to provide a response to all ten; what is problematic to you- only needs to be recorded. Some MRDs may have only one of them or a few, and some may have most of them and some may not have any. You send only the pertinent to your MRD of your hospital and shouldn't exceed more than ten.

S. No	Problem-related to	Explain the existing Problem in bullet points
1	Infrastructure including all the items required to run the MRD: related to space, staff; equipment, stationary, and other items	
2	Medical Record Forms (manual, electronic, hybrid, or both) its design, uniformity, supply, utility, and any problems related to MR forms or electronic screens	
3	Education and Training of MRD, and other healthcare providers including Medical, Nursing, and other paramedics.	
4	Investigation reports e.g. Lab, x-ray, or other departments related to reports	
5	Medical, Nursing and other paramedics related to their responsibilities to maintain good records	

6	Administrative staff related to MRD work; general attitude e.g. positive, or negative including providing staff and their promotional avenues,	
7	In the collection of statistical reports; analyzing; interpreting and sending, mandatory and other reports to Govt. and others	
8	Medical-legal, Insurance and Reimbursement, and any other – public and external issues	
9	Post-CO VID-Pandemic work, what is the HIM department's responsibilities in meetings the hospital needs	
10	Any other problems not covered above	

Questionnaire 2: Patient Problems in the Hospital

Please list (your personal experience) about the patients and their relatives/attendants generally, experience in the hospital during the care as an outpatient, emergency, and inpatient or other related services (at various stages starting from the entrance; transportation, parking, searching appropriate service, registration, Doctor's examination waiting for a place, referral within the hospital, lab, radiology pharmacy, treatment rooms, etc. It could be medical, psychological, social, economic, language, attitude, or behavior, of medical, nursing, paramedical, and other hospital staff (It could be anyone from the lowest to the highest position in the hospital and even including co-patients, security, brokers, etc., etc.

The following table is just an example, if you have any other than this, can also be added to the list and explain briefly the problems encountered. Your input in furnishing this information would significantly help everyone serving the patients, particularly the HIM Department.

Service/ Level	Problems experienced by patients /attendants
Reception/Front Desk	
Registration	
Waiting Hall	
Dr. Examination	
OP Clinics & referrals	
A/E	

Admission	
Ward	
Lab	
Radiology	
Pharmacy	
O.T	
ICU/CCU	
Diet/Nutrition	
Medical staff	
Nursing Staff	
Paramedical Staff	
Medical Orderlies	
Co-patients	
M. R. Staff	
Insurance Issues	
Reimbursement issues.	
Any other issues	

Three (3) Stages of life: Schooling, Serve & Succeed (3 - S S S)

Schooling – Acquire knowledge, skills, and a positive attitude

Serve – To work and earn through a job or business or any activity

Succeed – Be successful, get to the top

Serve – 3 Levels:

1st Level: work under a supervisor – you need to carry out whatever work they tell you, you have little scope to suggest or give your ideas.

The given work may not relate to you, if you show your unhappiness – you may lose the job.

To move to higher levels by studying academic and professional education and working hard

2nd Level;

- Lucky to work as a supervisor, and have little scope to get work done by subordinates the way you wanted.
- This happens after some years of experience.

- To move to higher levels by studying academic and professional education and working hard

3rd Level:

- Your expected level; in charge of some section; or
- Assistant to Hosp. Administrator or MR Officer
- The choice of your to choose which would help you in the long run
- To move to higher levels by studying academic and professional education and working hard

Life Growth Line: is the one can aspire to reach a very high position e.g., climbing the Himalayas which is the highest mountain in the world; very few people in the world have achieved either going to “Space” reaching the Moon, or climbing the top of the Himalaya, becoming richest persons in the world, etc. and satisfied with their achievements and gradually remained and continue to enjoy their greatness.

The life growth line teaches that one wants to remain at a “B” level; he has to work hard continuously to reach “A”. Otherwise, he may fall to “C” without his knowledge; inevitably

Similarly, if one wants to be at “D” he has to work hard continuously to reach “C”. Otherwise he may fall to “E” without his knowledge.

The one who reaches the highest level is the top and ultimate end; if anyone tries more than that; nature will play the natural phenomenon such as; and it is also assured that none will continue to be on the top; for a long time; there are two options; either he tries to continue to be on the top with honest attitude by working hard; the mother nature will bring you down very gradually and ultimately you will come back from where you reached top- this could be some years duration. If you think that you are a very successful person due to your intelligence and caliber and try to move further higher level by flying as you are not satisfied with your achievements; then Mother Nature will act instead of reaching higher bringing you instantly to the bottom level – your condition will be worse than what you had initially. The same can be explained in simple terms: An achiever is one who is not satisfied with his accomplishments even after reaching the Himalayas peak and tries to jump further higher level; the only way is to fall down to the bottom and break all the bones; may become handicap or even may lose his life.

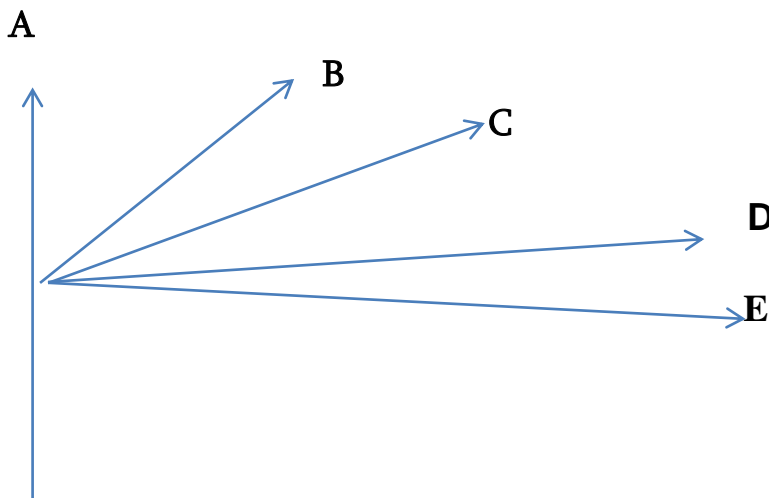
I will quote another example of a CLOCK that has 1 to 12 numbers. Number 6 is the bottom that is the starting point for any person, and number 12 is the highest like “The Himalayas peak. One who is satisfied with his success and

never tries to jump higher than he may remain for some time there, but gradually fall to 1, 2, 3, 4, 5, and the last 6. It all depends on individual attitude.

If one wants to move higher level it would be fitting to move higher to number 7; gradually to 8; 9 10 and 11. Here, if you want to remain a good successful person try to work hard to reach but don't go there; that is the most successful or dangerous zone; think twice; the number 11 is the safest zone for highly intelligent and successful persons, and for middle-level people, Number 9 is the most suitable zone; for them, there is a good scope to move up to number 10 and 11. Note please; that after 12 –there is no other way except to stay at the top of the Himalayas holding tightly to the ground facing the fast-moving wind; rain; storms; snow etc. If you adopt the second method of jumping further a higher level–you should know what happens. If you want to enjoy your hard-earned success; remain the suggested number and enjoy life for a much longer period. This doesn't promote not trying to do better; it only suggests being conscious that any excess more than needed is counter-productive.

LIFE GROWTH LINE

(A–Top; B-High-headway; C-Headway; D-Safe Zone, and E–Lowest)



What are the causes of Failure? There are many reasons for failure; mainly, two kinds of failure. The first comes from never trying out your ideas because you are afraid, lack confidence, or are waiting for the perfect time. You can never learn from this kind of failure and such timidity will destroy you. The second kind comes from a bold and venturesome spirit but does not apply to the right cause. The main causes of failure in life are poor environmental influences, the wrong mind-set, bad habits, egoism, and lack of motivation. All these reasons for failure can be addressed if you identify which ones apply to you and create a plan for removing them. Further due to not having a clear vision, lack of leadership, lack of trust, complex system, ill-discipline, negligence, not learning from mistakes, poor reporting or communication with

others. Not reviewing the set goals, and not involving employees in the process of business. In conclusion, Failures are like a two-sided sword. At the time of learning, failures do occur; it is also necessary to avoid them wherever possible. Understanding why or how failures happen gives you valuable insight to help you address the causes instantly.

We learn more from our failures than from our successes. Not only do we find out what doesn't work so that we can adjust our future attempts, we learn about ourselves in the process and gain a bit of empathy towards others that might be struggling as well." People have studied failure and realized that teaches us about love, relationships, money, and business. Failure sets the stage for us to reach our goals. We can use failure as a teaching tool to improve skills like problem-solving, leadership, communication, decision-making, learning, and so on. Don't make a habit of embracing failure for success; try to avoid it without that you can succeed.

How to Influence? To successfully influence others, you have to be genuine. If you really care and put your energy toward a good cause, others will naturally "feel" your passion and you'll have influence. You should also know what others are looking for. Need to do your best.

How to outshine? Lead nothing but lead. Lead without a title by helping others, identifying problem areas, and taking initiatives to resolve issues, gradually creating a group of like-minded people who are keen to take initiative. Ensure to Praise; manage time, understand differences, be proactive and productive, learn to perform the job well, work hard, act professionally, keep a positive attitude, take initiative, and be a good leader and team player, and a good mentor to train your expertise as many as you can, that will be handy in your work. Recognize the need for organization and understand well your boss; maintain good relationships; and every failure makes a good opportunity; Acquire the latest knowledge, and skills and Avoid wasting time on discussing or gossiping that will downgrade.

How to be successful: Always be prepared, build high self-esteem, believe in yourself, have confidence, like and feel good about yourself, and take pride in what you do. Focus with a positive attitude and always expect the best possible outcome for what you do. Set powerful goals. Give your brain a place to aim, Persevere persevere, and never quit. Having a clear layout plan, Prioritising your goals, acquiring relevant education and skills, having a positive attitude, learning from mistakes, sticking to good habits, accepting new things that are productive, risk-taking is a must, and being ready to sacrifice, focus and dedicate on selected work; the outcome is positive.

II

“Dr. Mogli’s Oath of Ten AUSPICIOUS Commandments for Healthcare Professionals”




A: Acquaint; U: Uphold; S: Serve; P: Participate; I: Innovate; C: Contribute; E: Inspire; O: Outshine; U: Unify; S: Succeed

Dr. Mogli’s Oath of Ten AUSPICIOUS Commandments for Healthcare Professionals”

In the name of my beloved parents, and teachers, God, made them as my witnesses that I, (Name)_____ take the Oath to fulfill my obligation to serve the sick and injured with full devotion by executing Dr. Mogli’s Ten (AUSPICIOUS) Commandments throughout my professional life. I will...

- Acquaint** with mandatory needs of the healthcare organization; vision, mission, goals, and government laws to comply with.
- Uphold** the dignity of the organization, be loyal and neutral, follow ethical guidelines, and uphold the protection, privacy, and confidentiality of patient information.
- Serve** to establish and run a well-organized and efficiently managed healthcare system as a team member to an entire institution to provide for the needs of the healthcare organization.
- Participate** actively in the policy-making meetings of the organization. I remain a member of the professional society and take part and present papers in professional workshops and conferences.
- Innovate** by conducting research as a team on the latest knowledge and technology to enhance the efficiency of the healthcare providers to deliver swift, safe, quality, and cost-contained care.
- Contribute** by imparting education and training as a healthcare team for high standards of performance. Provide consultancy to needy patients as required by the organizations.
- Inspire** healthcare providers as a team; to achieve comprehensive healthcare to patients; and prevent medical errors, duplication of efforts, and expenses of the healthcare organization.
- Outshine** by practicing efficient methods as a team for significant contribution to providing the best possible care to the patient and to identify any disease surpasses will notify swiftly the public health officials to avert an epidemic.
- Unify** patient data by executing “one patient-one record and one number”, from birth to death for swift care to patients in any part of the globe.
- Succeed** medical record is the Mirror that” reflects what is done to the patient, not recorded means not done”. “People Forget –Record Remembers”. I revolve around the patient being the nucleus to succeed in a healthcare organization's vision, mission, and goals.

A copy of the Oath was sent to highly distinguished Professionals globally including the past President of IFHIMA for their input and comments prior to making it public for execution. Following is the response: Approved by Global Professionals and implemented on **5th March 2022 in India.**

Messages from Global Distinguished Professionals	
	The USA. Congratulations; I found the “Oath” is excellent work; if executed this will stimulate the professionals and others by Prof. Dr. Ibrahim B Syed, Ph.D., D.Sc.(Johns Hopkins) Clinical Professor of Medicine, School of Medicine, Louisville, Kentucky, USA 5215 1044(Direct); Fax:+81 3 5215 1045(Direct)
	Canada: I am privileged to review your 10 Commandments for HIM professionals. They are ‘Fantastic’. What a great testament to your long and auspicious HIM career. Congratulations. By Gail Allan Robinson; President, Expert HIM, CHIMA, Canada; Cell 548-388-3416; Home 226-663-5377
	Germany: I absolutely do share your opinion that the HIM profession does not yet have the standing that it deserves. Therefore I appreciate very much your Oath of Ten Commandments for HIM professionals. Angelika Haendel, of Germany; Past President of IFHIMA (Global; by Angelika Haendel; Past President of IFHIMA (2013-2016))
	Japan: Your Oath is very wonderful and helpful. Not to mention the contents, the overall structure is easy to see and understand. Please provide it widely all over the world. Dr. Mogli, Never give up! I always admire you leading the International Federation members with new innovative ideas and practical solutions that are very much appreciated by global nations. You are such a great leader in India and a word-renowned great teacher of Medical information management. I always admire Prof.

	<p>Dr. Mogli, Father of Medical Records of India & the Middle East. Thank you from the bottom of my heart for your contribution to developing countries. I always admire your straight forward thinking about HIM. Your thoughtfulness and hard work are second to none in the world. Best wishes. Warmest regards, By Yukiko YOKOBORI; Japan Hospital Association, Japan Society of Health Inf. Management: Tel: +81 3 5215 1044(Direct); Fax:+81 3 5215 1045(Direct)</p>
	<p>Australia: I really like how you have incorporated this into the oath and think it is an even stronger document. I am pleased to see this developed for your region for HIM. By Prof. Kerryn Butler-Henderson, Director of Digital Health, RMIT University, Victoria, Australia. President-Elect for IFHIMA (2022-2024) later declined the post by resignation</p>
	<p>Australia: Dear Dr. Mogli, Thank you for sending me the Oath I am sure many HIMs worldwide will appreciate it. In many countries the profession has been facing difficulties with developments in information technology and many information technicians replacing HIMs as, in our country, we do not have enough HIMs to meet the demand. -Best wishes. By Phyllis Watson (President of IFHIMA-1988-1992)</p>
	<p>Canada Respected Sir, Good day to you and all: The prompted mission is a great motivation to everyone, and proud to hear this distinguished move towards a unique recognition in the world. Please let us know our possible tasks to potentially this drive. Special regards and respect. By Deepak Vikram Nellore (Vikky). Healthcare Informatics Global Consultant, 71, Parricus Mead Drive, Charlottetown, PEI, C1E 2H3, Canada.</p>
	<p>Mauritius: Dear Prof Mogli, Excellent job. Will get it signed by as many HIM workers as possible and also see to it that we do try to achieve the goals pointed out by the Oaths. Mr Sooneeraz Monohur, Chief Health Records Officer, Ministry of Health, Mauritius.</p>
	<p>Ghana: This is great Dr. Mogli! I suggest that countries adopt and put in one or two unique things. By wanjala pepela <wanjala2p@yahoo.com></p>
	<p>United Arab Emirates: Respected Sir, I haven't seen such an inspirational Oath for the HIM profession. The Oath is extraordinary; the entire HIM functions are integrated into Ten Words, and the Oath reminds HIM of their responsibilities and enlightens the management; on the type of work carried out by HIM professionals. If implemented; it will boost the HIM staff's status success to higher levels and earn great self-esteem. By Narendar Sampath Kumar, MBA (Hosp. Mngmt). Masters in Population Studies, BMRSc, PGDCS, CHRIM (UK), CCS, CCA (AHIMA) Group Health Information Manager, Mediclinic Middle East, Dubai, UAE.</p>
	<p>Oman: Dear Sir Thank you for Your "Ten Commandments" I feel that it could be integrated with our HIM curriculum, every HIM Graduate should take an oath after finishing the HIM Education, thirdly it could be part of our professional strategic plan so that our professional leaders inculcate the commandments to each of their staffs. So it should be displayed in the HIM dept. like Mission, Vision, Values, and Goals. By K Kennedy George Program Coordinator, HIM Program, Oman College of Health Sciences' MOH, Muscat, Oman.</p>
	<p>Qatar: Respected Prof. G .D Mogli: Greetings!!! I accept and Implement "Dr. Mogli's Oath of Ten AUSPICIOUS Commandments for Healthcare Professionals. I am honoured to be part of the Health information profession and reaffirm my commitment to upholding the values and principles of my profession. By Vijayakumar Armugam; Health Information Management Officer Third Strategy Planning and Health Intelligence Email: varmugam@phcc.gov.qa Tel: 402-71851, Doha, Qatar.</p>
	<p>India: (Hyderabad) Sir, Thank you so much for conducting, the conference starting with the most valuable Dr. Mogli's Oath of Ten AUSPICIOUS Commandments for HIM staffs, and honoring the professionals. In my life, I have not seen anyone doing so much for the profession. You have a great and rare personality. I really from my heart pay my sincere gratitude and regards to you for your wonderful work. People remember forever. By Mr. Prabhakar D. HOD, Yashoda Hospitals, Secunderabad. India</p>
	<p>Bangalore: Dear Sir, The two day Conference has really brought in the electrifying energy in me to change my working lifestyle to a better quality & quantitative standard which has resulted in aggressive implementation of the Ten AUSPICIOUS Commandments Oaths on my table for immediate implementation, I am grateful to you for such a great opportunity and for giving us the enormous Knowledge. We could share our limited knowledge with the Thank you for all the love, affection and care given to us during the Conference Sir.; By Bosser M Raja, Head - Operations & Marketing Dr. Solanki Eye Hospital, Pvt Ltd, Bangalore 560003 Mob:+91-7338678048</p>
	<p>Those who adopt Dr. Mogli's Oath of 10 AUSPICIOUS commandments, will be definitely successful persons in the HIM field. I recommended to all HIM professionals to adopt this in their entire life. I really appreciated Dr. Mogli's great achievement in the field of HIM. Also, it is proud of the HIM fraternity. Long live Dr. Mogli sir...God Bless you. By KESHAVARAO.T, Medical Record Officer (Gazetted); Health and FW Dept. Govt. of Karnataka, CIMS Teaching Hospital Chamarajanagara-571313 Karnataka. India, +91 9880569550 keshavarao.ssit@gmail.com</p>
	<p>Bangalore: Dear Sir, Thank you very much for your advice on the implementation of "Dr. Mogli's Oath. Of course, we will implement the same in our organization from the 1st of January onwards and also will spread the same in our friend circle to implement in their organization.. Joju V. Antony Assessor of IRIS and CBHI Faculty, Director, Health Information Management, Sri Devaraj Urs Medical College Attached with R.L. Jalappa Hospital & Research Center, Kolar, Karnataka, PIN-563 103</p>

III

Practical Implementation of Dr. Mogli's Oath of Ten AUSPICIOUS Commandments

Introduction: “Dr. Mogli's Oath of Ten AUSPICIOUS Commandments for Healthcare Professionals” **Ten AUSPICIOUS Commandments:** strongly suggested as the Ten Commandments comprehensively cover all healthcare professionals' responsibilities. If honestly executes he/she will outshine and succeed.

A: Acquaint	U: Uphold
S: Serve	P: Participate
I: Innovate	C: Contribute
I: Inspire	O: Outshine
U: Unify	S: Succeed

Acquaint with mandatory needs of the healthcare organization; vision, mission, goals, and government laws to comply with. First, meet the high decision-makers and policymakers or their representatives and find out their need for recruiting him/her. By discussing with them; you will know what their expectations are, and understand the institution's activities for the present and future next 5 to 10 years. Visit the entire hospital, and its annexures if any; meet all the HODs of the Clinical, Nursing; and Lab. including Pathology, Microbiology, Biochemistry and Radiology, and other allied health departments to get acquainted with their work and convey your work as HOD of MRD.

Uphold the dignity of the organization, be loyal and neutral, follow ethical guidelines, and uphold the protection, privacy, and confidentiality of patient information. The MRD is being the custodian and the first point of patient contact, upholding the organization's name and fame depending on your department. As MRO you would inculcate all the staff to strictly adhere to the institution's ethical guidelines in protecting the privacy and confidentiality of patient information and meet their level of quality of service being rendered.

Serve to establish and run a well-organized and efficiently managed healthcare system as a team member to an entire institution to provide for the needs of the healthcare organization.

After realizing the needs of the institutions and the resources available at your disposal; you need to prepare a “Blue-Print or Road Map”. That covers the **NEEDS AND MANAGEMENT OF MEDICAL RECORDS DEPARTMENT**. The primary function of a hospital is the care of the sick and injured. The hospital administrator is legally and morally responsible for the quality of medical care rendered to patients. Therefore, the medical records in

charge have a very important role to play in the effective and efficient management of hospital services.

The main needs of the Medical Records Department (MRD)

- a. the needs depend on the overall responsibilities and functions of the department.
- b. The following organizational needs have to be met before we could put the department into operation:
 - Planning, setting-up, organization, and management of the MRD
 - Promoting and obtaining good medical records or if EMR/E.H.R requirements
 - Cooperation with all the departments in the matter of records
 - Complete medical record control
 - Assist in the medical records, QA, and other committees
 - Prepare statistical reports and assist in research and teaching programs.
- c. Location and layout
- d. Personnel
- e. Equipment
- f. Good quality medical record forms (according to international standards)
- g. Budget and budgetary control
- h. Interdepartmental relationship
- i. Organizational chart of the department
- j. Work distribution chart
- k. Line, staff, and functional authority
- l. Operational policy:
 - Working hours—shift
 - Monthly duty roster (schedule)
 - Implementation of instructions
 - Training of new staff
 - Submission of reports
 - Supplies
 - Communications
 - Transportation of medical records
 - Housekeeping and physical examination
 - Hotel services
 - Protection from fire
 - Safety control
 - Infection control
 - Disaster and emergency plan.

The policies and procedures shall include

- Scope of the department

- Organization and functions of the Medical Record Department (HIM)
 - Liaison between the hospital and health-centered and other health organizations
 - Interdepartmental relationship
 - Eligibility for treatment of A/R (ER), O.P., and I.P
 - Screening of patients for minor ailments and specialty care
 - Staff medical record
 - Medico-legal aspects
 - Consents: for investigations, treatments, operations, leaving against medical advice, emergency operations, the release of information, transplantations, transfusions, etc.,
 - Confidentiality and release of information
 - Authorized staff definition
 - Departmental quality assurance activities
 - Responsibility of medical record staff for medical records and other committees
 - Control of forms including design development, instructions for use, and completion of forms
 - Format and arrangement of medical records (A/E or ER, O.P., and I.P.)
 - Retention schedule for microfilming and preservation of records
 - Patient's property
 - Investigation (lab., x-ray, EEG, ECG, etc.). Request and report procedures
 - Authority and assigned responsibility for the safekeeping of all records
 - Responsibility for the content and completion of different parts of the medical record by medical staff, nursing and other staff
 - Transcription of medical reports, operation notes, discharge summaries, and other reports
 - Issue of medical reports and certificates
 - Submission of periodic reports including statistical data to authorities
- Recruitment of required personnel with job descriptions
 - Equipment and furniture supply
 - Space allocation
 - Approved standard medical abbreviations and symbols
 - Review of the quality of medical records at least quarterly for clinical pertinence and timely completion

- Role of the Medical Record (HIM) Department in internal and external disaster and emergency plans

Rights and responsibilities of a patient

- Registers for O.P., A/E (ER)., M.L.C., Admissions, Births, Deaths, Operations, Cancer, Patients Property, Infection Notification, Ward Registers, Patient Waiting Lists, Old Record Registers, and Record Destruction Registers
- Registration system of O.P. (new and appointment) I.P., & A/E
- Numbering system for O.P., I.P., (a unified record) and
- A/E (ER), records, and x-rays
- Filing system (for patient records, diagnostic, operative, and
- Master patient index, as well as x-rays)
- Referral and transfers within and outside the organizations.

General Instructions:

- Every page of the patient file shall have identification data; at least the patient's name and hospital number clearly legible.
- The treating staff whether medical, nursing, paramedical, or others must sign and date wherever and wherever any information is recorded in the form or record with the name and status of the contributor.
- All entries in the patient file shall be legible and clear.
- A list of authorized signatures must be filed in the Medical Record Department for reference.
- Signature stamps are not authorized without an actual signature (permitted only, if the owner takes full responsibility for the stamp's position).
- All verbal or telephone orders shall be signed by the responsible physician immediately or within 24 hours.
- Any documentation in the patient file shall not be erased, if corrections are required, circled, written over, and signed.
- Patients shall not be admitted or discharged without the written admission requests or discharge instructions of the treating physician or his authorized designee.
- No patient shall be taken to surgery without a complete history and physical examination, except in case of emergency, and this factor must be documented in the medical record.
- A provisional or admitting diagnosis shall be written at the time of admission wherever possible.

- Diagnoses shall be written on the face sheet without the use of abbreviations.
- Only approved abbreviations and symbols are to be used.
- Prior to discharge of the patient, the treating physician or his authorized assistant shall write the final diagnoses, including principal, associate, and complications, the condition of the patient on discharge, the result, and advice given.
- No objection certificate has to be obtained from the MRD by medical, nursing, or paramedical staff to keep records incomplete.

Work Procedures:

- Central registration and appointment system
- Outpatient clinics including clinic schedule
- A/E service registration and filing
- Admission office
- Processing of outpatient records
- Processing of inpatient records
- Hospital statistics
- Filing and retrieving of records and x-rays
- Medical record library – general functions including
- Transaction of medical reports, progress notes, issue of medical reports and certificates, microfilming, old record maintenance, and management of the Medical Record Department.

Participate actively in the policy-making meetings of the organization. Remain a member of professional society and take part and present papers in professional workshops and conferences. The meetings are an excellent platform for self-progress; while we are working as an MRO; just not only do routine; or traditional ways of working; every bit of opportunity to convert to prove that you are capable of sharing in the accomplishing administrative objectives by providing good health information that really plays an important role in the topic that is being discussed in the meeting. Your data becomes handy for them to make decisions; you are gradually getting closure to the HODs and the top administrator too. Some important administrative meetings that they consider only a few important officials are invited to and are really not related to MRO. Still, collecting vital statistics and interpreting them in a judicious way will find some results that are facts that can help the decision makers to decide how to be successful in that particular issue or project. But to do this, you need to work hard and make special efforts.

Innovate by conducting research as a team on the latest knowledge and technology to enhance the efficiency of the healthcare providers to deliver swift, safe, quality, and cost-contained care. The MRD is considered to be a gold

mine, we need to work on the data so that it will help in finding new ways of doing that will reduce the staff and increase efficiency. As an MRO, try to accomplish better results with fewer resources. Make use of technology; understand clearly the hospital problems existing in OPD, A/E, and IP by meeting concerned and taking their views; come out with new schemes and divert your innovations towards the patient care services; that will have a tremendous effect on making the patient flow in the OPD systematic very orderly that will help the patients to get swift care that results in saving their time in the hospital; they experience a satisfaction.

Contribute by imparting education and training as a healthcare team for high standards of performance. Provide consultancy to needy patients as required by the organizations.

As an MRO, first and foremost train your staff thoroughly in their respective works; once that is achieved; you will find enough time for other innovative services. Once your department is organized; impart an orientation to all healthcare providers. There are various ways; by going around the OPD or hospital, by meeting the patients, doctors, and other department heads; you realize that you have a solution for their problems. You will outshine gradually them through hard work, honesty, and sacrifice. You should contribute your expertise to other departments.

Inspire healthcare providers as a team; to achieve comprehensive healthcare to patients; and prevent medical errors, duplication of efforts, and expenses of the healthcare organization. Maintaining well-organized and efficiently managed MRD becomes a “Window of the Hospital” smart way of working by your staff with their discipline and punctuality inspires other departments; which stimulates competition that leads to achieving comprehensive healthcare for patients.

Outshine by practicing efficient methods as a team for significant contribution to providing the best possible care to the patient and to identify any disease surpasses will notify swiftly the public health officials to avert an epidemic. The COVID-19 pandemic has opened the eyes of all global hospitals to realize that disease surveillance can help. If we ensure that all the records especially inpatient records are documented accurately, timely, relevantly, and completely will help in concurrently classifying them according to WHO classification and will help in detecting rare diseases much earlier than any other departments. In fact, MRD can play a very vital role by early alerting the public health authorities to prevent epidemics/ pandemics.

Unify patient data by executing “one patient-one record and one number”, from birth to death for swift care to patients in any part of the globe. Hospitals

in the sixties without computers were able to achieve unifying all “one patient record and one number” at least individual hospital level. With the advent of IT and Communication Technology; one has to try to accomplish unifying the record system by standardization and rationalization throughout the globe so the patient can get the care at any place from his record.

Succeed medical record is the Mirror that” reflects what is done to the patient, not recorded means not done”. “People Forget –Record Remembers”. MRO revolves around the patient being the nucleus to succeed in a healthcare organization's vision, mission, and goals. When the MRO was able to achieve the above 9 (AUSPICIO) the MRD has already become a centre of attraction-MRO being HOD; succeeded and the hospital is proud to bring as many distinguished professional guests and VIPs. Even the VVIPs have less time to visit the hospital but they will not miss visiting MRD; in this way, you not only succeed but achieve great self-esteem.

IV

Dr. Mogli's Progression of Ten CCUPATION Commandments

O: Obtain; C: Compete; C: Condition; U: Understand; P: Procure; A: Association; T: Transform; I: Implement; O: Outshine; N: Novelty

1. **Obtain** required academic and professional qualifications from recognized Institutions to gain a suitable job.
2. **Compete**: and succeed with highly qualified professionals to gain an apt position in the institution. You get the job due to professional qualifications; and expertise. Continuously enhance proficiency in your field.
3. **Contribute**: by well-organized and efficiently managed HIM department with modern standards, and enlighten the management by imparting training on the HIM systems; policies, and procedures and providing a Doctors' Conference room for completion of records and research for high standards of performance
4. **Understand and uphold**: Understand mandatory needs, vision, mission, goals, and government laws to comply with by the institutions. Uphold the dignity of the organization, be loyal and neutral, and follow ethical guidelines, protection, privacy, and confidentiality of patient information.
5. **Procure and Participate**: Procure required justified needs by maintaining good relations with the high officials to serve better the institution; and continuously tactfully follow to succeed. Participate in decision-making meetings, and present professional papers in conferences to comply with the needs of the 21st century.
6. **Associations**: Each country may have one national HIM association with the objective of improving the quality standards of the HIM field with the latest technology and communication systems and augmenting professional status by way of introducing specialized HIM-needed programs; conducting workshops, and conferences bringing experts to share the views for the benefit of participants. Each state can have an association under the broad guidance of a national association to cater to their state issues.
7. **Transform the** staff by imparting standards, policies, and procedures, and develop HIM as one of the well-organized and efficiently managed departments in the country that will be a model and can be an excellent teaching institution to conduct different HIM educational programs. This inspires the staff to do their best.
8. **Introduce and Advice**: "Dr. Mogli's Oath of Ten AUSPICIOUS Commandments" on the first day of starting your HIM department and whenever a new candidate joins by supplying a copy of the "Oath". Everyone recites after that, take signature on the Oath sheet, from the candidate as evidence of understanding the decrees as part of his or her responsibilities. By abiding "Oath" the staff can perform their job most efficiently.
9. **Outshine and succeed**: Healthcare is dynamic and constantly changing; also technologies; embrace and succeed instead of deviating from the HIM profession. Serve with passion, and dedication, earning the honour. Leaving a safe zone, taking exciting roles, and gaining professional proficiency for the growth of all. Train staff to be robust to outshine and succeed. "Medical Records is Goldmine; more you dig; more you get".
10. **Novelty and National Celebration**: Conduct research on the latest knowledge and technology to enhance the efficiency of the HIM department. Inspire healthcare providers as a team to achieve comprehensive healthcare for patients; prevent medical errors, duplication of efforts, and expenses of the healthcare organization, and ensure healthcare providers deliver swift, safe, quality care that will lead to excellent progression. Dedicate your birthday as part of National HIM Day; celebrate by cutting the cake for jubilation by the entire staff by revamping the departments, decorating, and inviting hospital staff, even the community, and reciting Dr. Mogli's Oath of Ten AUSPICIOUS Commandments demonstrate the functions they carry, their contribution to the institution besides best patient care; in meeting the needs of medical education, research, legal, reimbursement, and insurance issues, making best-functioning institution

Celebration of MR's birthday as MR Day enhances Professional standards And gets self-esteem and progression

 USA	<p>Need-based in the current Indian Context: Celebration of MRO's birthday as MR Day in their respective hospitals is a must Everyone gets the opportunity to participate and celebrate as a single team MROs would not like to miss their Birthday celebration Celebration of HODs is common in hospitals; hence MRO's birthday will be fitting MROs' birthday celebrations like Teachers Day and so on.</p>
 Canada	<p>Recognition by Management and Public: Ten AUSPICIOUS directives for better professional standards Ten OCCUPATION directives for self-esteem and progression Prove MRO's contributions to the patients' care, physicians, and staff. MR's birthday itself is a great recognition and pride by everyone including family</p>
 Canada	<p>Rewards and Celebrations: President should. Honor the dedication to the Profession's entire life The best MRO nationwide should be recognized, and honored by the Central Govt. The best MRO should be given Dr. Mogli's Award each year Each state should honor the best MRO by a Govt.</p>
 Mauritius	<p>Celebration can be jubilant as a victorious team for all the staff. Everyone would like to celebrate National MR Day on their Birthday.</p> <p>Opportunity for boosting morale and status: Boost the morale of the MR staff to do better and better Improves the status of MRD and its entire staff Consolidate efforts; create a stronger sense of unity among nationwide MROs,</p>
 U.A.E	<p>During the celebration: Before invitation, revamp MRD and the staff pleasing look Invite hospital staff and other members for the celebration Recite Dr. Mogli's Oath of Ten AUSPICIOUS Commandments with staff Highlight the vital role of MR to Management and guests Show whole year report covering its efficient contributions to hospital management Specify MRD's past achievements and future plans to improve the quality of services. Request justified MR wants including staff promotions as a gift from the management Cut Cake and share; celebrate to make everyone jubilant</p>
 Qatar	<p>How to remove the MR Inferior Complex and the low status of the MR professionals? MR professionals just carry on given tasks without asking about their needs Passive way of working leads to the downfall of MR's professional status Need to be robust for better performance by getting the required items. Transform to serve selflessly under proper guidance to succeed Educate the management, and public, locally and nationwide about the vital role of MR Direct own energies for improving quality standards that lead to self-growth Stay current in professional advancement through commitment and dedication Utilizing own time wisely can lead to Professional growth None will help; only an individual's hard work will inspire for success</p>
 Oman	<p>MR Professionals desire to celebrate "Father of Medical Records of India" Dr. Mogli's birthday is National Day on the 1st of July every year "You are a great person in the Medical Records Field in the entire world You dedicated your entire life to this field and even at the age of 85 helping You've reached the sky & have achieved a lot in this field.</p>
 Hyderabad	<p>You are the INSPIRATION & ROLE MODEL for the Youth Everyone would like to celebrate National MR Day on your Birthday. Only that day everyone will take Dr. MOGLI's Oath of Ten AUSPICIOUS Commandments". Besides MRO's birthday in each hospital, once a year, all will celebrate the 1st of July every year. This will inspire everyone to reach high with passion and dedication to succeed.</p>
 Bangalore	<p>Bangalore</p>
 Bangalore	<p>Bangalore</p>

V**Who is Dr. Mogli? And what is his contribution nationally and internationally to HIM Field?**

He holds Three World Records: 1. Fellow of the USA-he is the only one outside of the USA in the entire World except for the US citizens, 2. He has a Fellow from the UK and the USA. None in the World has; 3. “Dr. Mogli’s Mirror” book challenged the offer of US \$1000/- (One thousand dollars); if anyone from any part of the world has achieved more than Dr. Mogli can claim. The book was given to top Distinguished Professional members of 33 Countries of the World including top Global professional association members ‘International Federation of Health Information Management (IFHIMA) Past, Present, and Future Presidents. None could claim. He worked as Consultant to WHO and 9-plus Nations as a Sr. Consultant & Adviser to the Ministries of Health; in India, Afghanistan, Iran, Kuwait, Saudi Arabia, Oman, Bahrain, Qatar, and UAE. He established Tens of HIM Educational Institutions; Organized Hundreds of Hospitals; and Trained Thousands of Healthcare Professionals. He received the highest awards from the USA, UK, and many other countries; FAHIMA of USA is equivalent to an Oscar award for the film industry. He participated and Presented Papers at 24 International Conferences, and hoisted Indian Flags in different Nations. Gave guest Lectures in 14 Overseas Counties. Published 131 papers in International Journals of Repute and published 18 books; used by many nations in the world; He had the opportunity to work closely with Health Ministers; and met the Highest Leaders in the world. e.g., Presidents, Prime-Ministers; Queens, and Princes of great nations: besides high professional around the globe; He is well known worldwide as the "Father of Medical Records of India and the Middle East" and Champion of Developing Countries by IFHIMA (World).

He is one of six; served selflessly, fully dedicated not to Name or Fame but just giving the best for the profession. He is the Founder of HIMA India (1972) and associated with IFHIMA for 50 years: To quote the names who served selflessness, fully dedicated not for (Name or Fame) but just giving the best to the profession. The young global HIM members should know and get inspired by their sacrifice: 1. Mrs. Grace Whiting Myers (1928); the first President of the USA. 2. Elsie Royle Mansell of the UK conducted the first Int. Congress (1952): 3. Dr. Boga Skrinjar Nerima of WHO, brought the world of MR professionals into IFHIMA in the 1970s; 4. Prof. Phyllis Watson of Australia is a great educationist serving selflessly since 1972; 5. Carol Lewis, of the USA, served many nations since 1976 and provided selflessly to the HIM profession. 6. Prof. Dr. G. D. Mogli of India served 9 plus countries since 1957; associated with IFHIMA since 1972; made policies; logo; and national membership fee; and chairman of Developing Counties; studied and presented in 9th Int. Congress held in New Zealand in 1984 and was awarded as

Champion of Developing Countries by IFHIMA (World). And involved in many activities and innovated in the 1970s Mogli's Ready Reckoner was used by most of the global nations including India-very popular till the end of 1990. Now; Dr. Mogli's Oath of Ten AUSPICIOUS Commandments will be used by many nations. "You are a great leader in India and World renowned great teacher of medical information management. I always admire your straightforward thinking about HIM. Your thoughtfulness and hard work are second to none in the world" by Yukiko YOKOBORI of Japan Hospital Association: Japan Society of Health Information Management, Japan.

Recent Achievements: He was selected as a member of the Academic Review Panel for 2023 IFHIMA Congress to be held from 29 October to 1 November 2023 in Brisbane, Australia.

Joan Henderson, josn.hrnfrtdon@sydney.edu.au.>

To: gdmogli@yahoo.com Sep 12 at 2:01 PM

Dear Prof. G. D. Mogli,

The 2023 International Federation of Health Information Management Associations (IFHIMA) Congress is being hosted by the Health Information Management Association of Australia (HIMAA) in Brisbane, QLD, from **29 October to 1 November 2023**, in conjunction with the HIMAA National Conference. As Co-Chairs of the Congress Scientific Committee, we are writing to invite you to please participate in the review process for abstract submissions, as a member of the Academic Review Panel.

Prof. Dr. Mogli's worldwide contact with high dignitaries; Presidents, Prime-Ministers, Health Ministers, University Presidents & Deans; HIM Professionals and others



**Dr. Mogli's "First Indian to achieve the following in the Indian History" of
Medical Records/Health Information Management**

Year	Content
1957	Started working from 1957 in Nagarjuna Dam Hospital. AP, India
1960	Organized Record Section of Niloufer Hospital, Hyderabad, AP with training record keeping of city hospitals, the American Library, State Statistical Dept., made the best record system in the AP State. Many high dignitaries e.g., N. Sanjeeva Reddy, Chief Minister of AP, Indira Gandhi as National Congress President, Paediatric Professors, DMS, & many WHO/UNICEF officials visited and highly appreciated.
1963	Started organizing medical records sections in different hospitals; started medical record certificate training program in 1963 in Osmania Hospital, Hyderabad in association with American Expert Mrs Acker, RRL, Consultant for Medical Records trained many city hospital personnel.
1964	Developed "Mogli's Ready Reckoner for counting hospital days (LOS)" published in IFHRO in 1977 journals and the UK and many other countries MR Journals in 1978- used by many countries. Indian Govt. MOH was circulated to all the hospitals in India to be used.
1968	The MOH of Govt. of India Officials stated the JIPMER MRD is the best in the country; it has a well-organized and efficiently managed Unit record system; for OP, A/E, and IP and classifying OP, and IP records as per WHO ICD classification is unique; for morbidity and mortality information and excellent keeping MPI to prevent duplicate records.
1971	Published "Outpatient Medical Records System and Procedures in India" in UK MRO official journal in May 1971.
1972	As a Founder formed "Indian Association of Medical Records Officers" was registered under the Govt. of India Society Act on 12 th July 1972 with the official address; MRD of JIPMER one of 3 National institutes of India. Officially announced by Govt. of India in All India Radio and many national newspapers. Later the association was known as HIMA India.
1973	Published "Medical Record System and Procedures in South India" in American MR News Journal in April 1973 with great appreciation. Requested Photographs of author with Hospital Director, working MRD staff and JIPMER Hospital. The same was published in the journal.
1973	Dr. Mogli was deputed to Afghanistan due to the reputation of MRD, where he organized the MRDs and trained 33 MRT candidates, which was highly appreciated by the Afghan and Indian Governments. The Afghan MOH officials called Dr. Mogli as "Father of Medical Records" for having started first time an MRT training program in Afghan history. During his visit, he met experts, several officials, and dignitaries from WHO, Russia, the US, Australia, and other nations. He met the Prime Minister of India, Mrs Indira Gandhi, and took a round of MRD and introduced staff.

1976	First Indian to participate and present paper at the International Congress attended by 2,000 participants, conducted by IFHRO in Toronto, Canada, in September 1976.
1976	He participated in the 7 th Int. Congress held in Toronto and got affiliated with IFHRO the Indian Association of MRO which was formed in 1972.
1978	First Medical Record Professional to occupy Class One Gazetted Officer Post in the Central Government.
1980	He got 2 nd best award for his paper presented in the IFHRO Congress held in Den Hague, Netherlands, in 1980. Had the opportunity to have Dinner with the Queen of the Netherlands along with other IFHRO executives.
1980	He was appointed as a Publication Committee member of IFHRO and Chairman of Developing Countries to study the MR systems and procedures. As a Chairman studied 13 Developing Counties systems and presented in the IFHRO Congress held in New Zealand in 1984.
1980	He started in 1980 the Bachelor of Medical Record Science (B.M.R.Sc.) University Degree Program under the Madras University. first of its kind in Southeast Asia.
1980	He was the first to be appointed as University Examiner by the University of Madras for B.M.R. Sc., education programs in India.
1980	During his WHO Fellowship visit to UK, delivered guest lectures to MR personnel, participated in workshops, input for improvements to the record system; where he met Prince Charles; presently King of the UK.
1981	First Indian to work as a Medical Records Adviser to the Ministry of Public Health, State of Kuwait.
1982	First Indian to obtain a doctorate (Ph.D.) in medical record administration from SV University, Tirupati, AP India in 1982.
1983	He published “Historical Background of Medical Record Administration in India” in the IFHRO journal, October 1983.
1984	He was appointed as one of four faculty members selected globally, conducted a workshop on teaching and learning techniques for teachers of medical record procedures for professors, deans, and officials organized by IFHRO and WHO, at Taranaki Base Hospital, Plymouth, New Zealand prior to the 9 th IFHRO Int. Congress in 1984.
1984	He participated and presented 3 papers in the IFHRO Congress held in New Zealand; was awarded “Champion of Developing Countries by IFHRO- currently named as IFHIMA (World) for working as Chairman of Developing Countries and presenting 13 countries reports; was highly appreciated by many nations.
1984	First Indian to chair a session of the International Congress, at the 9 th Congress held in Auckland, New Zealand, May 1984.
1988	First Indian to be appointed as Examiner for Ph.D., students’ theses in Saudi Arabia in 1988.

1996	First Indian to publish a book entitled “Managing Medical Records” in the USA in 1966.
2001	First Indian to be awarded Fellow of the Institute of Health Record Information Management (FHRIM) of the United Kingdom, in 2001.
2004	First Indian Nominated for the 2004 AHIMA Triumph Award, honouring those who make a difference in the HIM profession.
2007	First Indian and first non-American to receive the Fellow of American Health Information Management Association (FAHIMA) Award in April 2007. Which is equivalent to the film industry Oscar Award? To date none from other parts of the world Except the US citizens.
2007	First Indian to date, and the only person in the world (currently) to have two prestigious Fellow Awards from the UK (FHRIM) and USA (FAHIMA) Which is equivalent to the film industry Oscar Award?
2008	First Indian to receive membership of AHIMA’s Action Community for HIM-Excellence (ACE) in 2008.
2023	First Indian selected to be one of the panel members to evaluate papers presented for IFHIMA Congress to be held in 2023 in Brisbane, Australia.
	First Indian served 9 Nations; as Sr. Consultant and Adviser to the Health Ministries, Afghanistan, Iran, Kuwait, Saudi Arabia, Oman, UAE, and Qatar.
	First Indian to serve several nations as a WHO Consultant.
	First Indian to deliver Guest Lectures in 14 overseas nations
	First Indian to Participate and present papers in 24 MR and Health Informatics conferences held all over the world.
	First Indian to published 17 MR books & 131 papers in journals of repute.
	Recruited hundreds of MROs, created thousands of jobs; and trained thousands MR personnel across the Globe.
	First Indian to have met personally, the Kings, Queens, and Prime-Ministers worked closely with Health Ministers, Presidents of Universities, and high professional dignitaries across the world.
2019	Published in 2019; “Dr. Mogli’s Mirror” announced a Humble Award of One Thousand US Dollars (US\$1000) for Honourable readers; if anyone can find any other person in any part of the globe who has more illustrious accomplishments in the field of medical records than Dr. Mogli can claim the award. The book was freely distributed at the Dubai IFHIMA Congress held in 2019; to several members including 33 national professional dignitaries including IFHIMA past, and present presidents and executive members. None could claim. “Dr. Mogli’s Mirror book” is the testament. Dr. Mogli is the Global authority in the HIM Field.

Introduction: As day surgery cases are increasing in almost all hospitals; there is a need to maintain a separate bed complement so that one can get an accurate bed occupancy rate. And also find solutions to the problems encountered by the hospital staff in calculating occupancy rates on prescribed definitions. The given information below can be found in two; published books.

1. **“Dr. Mogli's Healthcare Technologist Handbook for All Healthcare Professionals” (Chapter 51 – Hospital Statistics (PP397-398))**
2. **“Dr. Mogli's Health Information Management & Health Informatics Professionals Handbook” (Chapter 24- Hospital Statistics (PP 215-216))**

Patient: a person receiving or registered to receive medical treatment.

Day-care surgery hospitalizations are those where patients receive "surgical" services in the hospital without staying overnight in the hospital.

In day-care or **ambulatory surgery**, a patient does not stay overnight at a healthcare center but gets discharged within a few hours of the procedure. As the patient is treated in an outpatient setting, it is also known as outpatient surgery.

Definition of Inpatient: A patient who is admitted to a hospital or clinic for treatment; occupies a bed; and requires at least one overnight stay. (**This definition doesn't hold well in the case of dead patients, who absconded or went against medical advice without staying overnight**)

Definition of Day Surgery by medical dictionary: Day care surgery also known as same-day surgery, is a model of care that means within 23 hours of undergoing a surgical procedure, patients will be able to leave the hospital and return to recover without occupying an overnight bed.

Day-care and bed occupancy: The **day of** admission counts as one **bed-day** so **day cases** (patients admitted for a medical **procedure** or **surgery** in the morning and released before evening are also considered one-bed days. The exception is that if the bed is used by another patient then- day surgery care counts as an inpatient with zero length of stay rather than day.

The exception to this rule: A patient admitted in the morning and died before evening; though he or she has not stayed overnight stay, counted as one day. Similarly, patients admitted in the morning and against medical advice or

absconded from the hospital are counted as one-day occupancy. The day-care surgery falls in the same situation. Since the day surgery cases are increasing in almost all hospitals; there is a need to maintain a separate bed complement so that one can get an accurate bed-occupancy rate;

Bed Occupancy rules may not apply to all the departments: Information on bed occupancy requirements varies from department to department; the dietician has supplied food on the day of admission and also on the day of discharge; the ward nurse has given medicines including injections to the patient on the day of admission and also on the day of discharge; this will not tally with LOS rules. Calculation of room rent is another aspect; though these definitions were made decades ago; at that time only minor day surgery was done either in the outpatient clinics or in emergency rooms. Currently due to the high admission rate and shortage of beds coupled with optimum utilization of beds for inpatients that need overnight care; the daycare surgery patients are occupying for a few hours but still, they are admitted as inpatients, and the same bed is used by another patient on that day; then daycare surgery case can be considered zero length of stay otherwise to be counted as one-day occupancy

Addendum to: Advantages of conducting more Day Care Surgeries vs. Problems encountered by the hospital staff on accurate bed occupancy rates on prescribed definitions.

Bed Occupancy Rate (Without Day Care Cases)

$$\frac{\text{Total Inpatient Service days (Ward Census) for a period} \times 100}{\text{Total Inpatient bed count days} \times \text{number of days in the period}}$$

Bed Occupancy Rate (With Day Care Cases)

$$\frac{\text{Total Inpatient Service days (Remained Census} + \text{Total No. of Daycare cases admitted for a period} \times 100}{\text{Total Inpatient bed count days} \times \text{number of days in the period}}$$

Concept of Day-care: In order to cope with the high demand for inpatient beds, the Day-care concept was born - not admitted into the ward as an inpatient and to be treated as “Day-care except using the OTs and Recovery Room for a few hours. Day-care patients due to complications or any medical emergencies are admitted as an inpatient.

Due to the heavy demand for beds coupled with good medical facilities and expertise in the specialty wards; the Daycare cases are being admitted into the ward which means it is an inpatient in principle. Currently, the recovery rooms are swiftly vanishing and ICU, ICCU, and NICU replacing them. Having admitted into the ward beds is expected to increase the bed occupancy this is not

happening due to the fact these cases don't meet the definition of inpatient staying overnight.

The concept of Calculating Bed Occupancy Rate for Daycare is incorrect: This could be implemented only when a separate Day-care ward with a fixed number of beds is allotted then; one can calculate the utility of beds. This might happen in the future; when Day-care surgeries have become very popular and in high demand universally.

Hypothetical Example: (for the month of April (30 days))
X hospital has bed strength of 510 (used for the ward patients)
The inpatient service days or ward midnight census: 12050
Daycare cases: 1020

I. Bed Occupancy Rate (without Day Care Cases)

$510 \times 30 = 15300$ bed days

The inpatient service days (Ward-Census for the month of April (30 days)) is 12050

$12050 / 15300 \times 100 = 78.758$ OR Bed Occupancy Rate is 79%

II. Bed Occupancy Rate (with Day Care Cases)

Add Daycare cases to Inpatient service days OR Ward-Census): $12050 + 1020 = 13070$

$13070 / 15300 \times 100 = 85.424$ OR 85.4% OR Bed Occupancy Rate is 85%

Exception: If Daycare cases stay overnight due to medical complications or any other reason to be deducted from the Daycare cases.

The difference between Without Day Care and with Day Care is 6.66%

An additional 6.666% is due to Inpatient beds occupied by the Daycare cases.

III. Day-care cases can be considered as 100% occupancy: In the absence of fixed exclusive beds for Daycare cases coupled with "Daycare cases vary daily and there is no constant number; better to treat them as a **hundred percent occupancy** irrespective of a number of Daycare cases every day. OR simply quote a number of Daycare cases instead of a percentage.

Recommended:

Hospitals that do not admit Daycare cases into inpatient wards can use example- I -Hospitals that admit Daycare cases into inpatient wards can use example II Hospitals don't fall into either I or II; they can consider example III.

VII	Mogli's Reckoner for Counting Hospital Days (LOS)
------------	--

This Mogli's Ready Reckoner has TWO main purposes: Firstly can be used to calculate the hospital length of stay (LOS) and secondly can be used for booking appointments; (booking clerks can use the reckoner for scheduling patients for a clinic visit days or weeks ahead) A printed copy can be and pinned up in front of clerks who need to do the job.

Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	1	32	60	91	121	152	182	213	244	274	305	335
2	2	33	61	92	122	153	183	214	245	275	306	336
3	3	34	62	93	123	154	184	215	246	276	307	337
4	4	35	63	94	124	155	185	216	247	277	308	338
5	5	36	64	95	125	156	186	217	248	278	309	339
6	6	37	65	96	126	157	187	218	249	279	310	340
7	7	38	66	97	127	158	188	219	250	280	311	341
8	8	39	67	98	128	159	189	220	251	281	312	342
9	9	40	68	99	129	160	190	221	252	282	313	343
10	10	41	69	100	130	161	191	222	253	283	314	344
11	11	42	70	101	131	162	192	223	254	284	315	345
12	12	43	71	102	132	163	193	224	255	285	316	346
13	13	44	72	103	133	164	194	225	256	286	317	347
14	14	45	73	104	134	165	195	226	257	287	318	348
15	15	46	74	105	135	166	196	227	258	288	319	349
16	16	47	75	106	136	167	197	228	259	289	320	350
17	17	48	76	107	137	168	198	229	260	290	321	351
18	18	49	77	108	138	169	199	230	261	291	322	352
19	19	50	78	109	139	170	200	231	262	292	323	353
20	20	51	79	110	140	171	201	232	263	293	324	354
21	21	52	80	111	141	172	202	233	264	294	325	355
22	22	53	81	112	142	173	203	234	265	295	326	356
23	23	54	82	113	143	174	204	235	266	296	327	357
24	24	55	83	114	144	175	205	236	267	297	328	358
25	25	56	84	115	145	176	206	237	268	298	329	359
26	26	57	85	116	146	177	207	238	269	299	330	360
27	27	58	86	117	147	178	208	239	270	300	331	361
28	28	59	87	118	148	179	209	240	271	301	332	362
29	29		88	119	149	180	210	241	272	302	333	363
30	30		89	120	150	181	211	242	273	303	334	364
31	31		90		151		212	243		304		365

(Published in the International Federation of Health Records Organizations; journal Series 2, No.2. 1977 and "MEDICAL RECORD AND HEALTH CARE INFORMATION JOURNAL" of U.K., Vol. 10, No. 1, February 1978, pages 350-360.

Also published by, many national journals. The Ministry of Health, Govt. of India circulated to all the Health Ministries to be used by the hospitals in the year 1979.)

Instructions: 1. First note the total days to the date of discharge and from that number subtract the date of admission. The resulting number is the inpatient stay. For example:

A case was admitted on 4.1.2022 and discharged on 6.4.2022.

6.4.2022	96
4.1.2022	4
	—————

Days of Hospital stay: 92

2. In case of a leap year e.g., 2000, 2004, 2008, 2012, 2016, 2020, and so on. If a patient is admitted before February 29 and is discharged on or after February 29 then add one extra number to the previous procedure. If a patient is both admitted and discharged after or before February 29, then procedure number one is still applicable.

3. If a patient was admitted one year and was discharged in the next year, e.g. admitted on 15.11.2021 and discharged on 20.1.2022, use the following procedure: from the number 365 subtract the number of the date of admission, then add up the number of the date of discharge. Admitted on 15.11.2021 and Discharged on 20.1.2022 For Example: (365 – 319 = 46 + 20 = 66 days)

No. of date of admission in the year 2021: 319 deduct from 365 = 46

No. of date of discharge in the year 2022	20
	—————
	66

Appointments: Look up the number for the current date. Add to that number, the number of days ahead that the patient is scheduled for an appointment. Determine what date the number refers to.

Example: On 16th November 2021: The number (in Ready Reckoner) is 320 Schedule patients for clinic visits five weeks ahead (35 days) Look up 320+ 35 = 355 = December 21 which is the appointment date. If the schedule data happens to be a holiday; give the next appropriate date.

VIII	Terms and Definitions used in Healthcare Management
-------------	--

The following are some of the important terms and definitions which are required for documenting medical records in general and nursing records in particular.

S. No	Question (Terms) and Answer (Definitions)
1	Accident and Emergency Record: is used for emergency (casualty) patients in the A/E department. This term is commonly used as A/E record, or Casualty Record or Emergency Room Record or Emergency File. These records are kept in the Casualty Department for one year and later transferred to Medical Record Department
2	Admission Waiting List: - a list of names of patients maintained by the admission office waiting for a vacant bed and room for admission to the hospital.
3	Adult Patient: - a patient 12-14 years of age or older
4	Aetiology: - a science dealing with the causation of disease
5	Allergy: - a condition of unusual or exaggerated specific susceptibility to a substance which is harmless in similar amounts for other members of same species. This term embraces all types of human hypersensitiveness
6	Allied Health Personnel: - those not involved in the direct care of the patient but are vital in providing health care (such as dietary, social services, and medical records personnel).
7	Amalgamation of Records:- bringing together of two or more files and numbers of one single patient created at different times under one hospital number and one file.
8	Anesthesia: - loss of feeling or sensation.
9	Analysis of Hospital Service: - a gross appraisal of the efficiency of the hospital and medical staff primarily for benefit of, and use by, the patient and hospital. It is intended to give a picture of the type of illnesses cared for by the hospital and their end results
10	Anatomy: - is the study of different organs which make up the body, their arrangements, and relationships to each other, and the different types of cells recognizable on microscopic examination.
11	Anatomy: - is the study of different organs which make up the body, their arrangements, and relationships to each other, and the different types of cells recognizable on microscopic examination.
12	Anomaly: - is a structure or organ which is irregular in formation (malformation). Examples of congenital anomalies are missing fingers or toes and heart defects.
13	Angiocardiography: - a diagnostic procedure involving an x-ray dye into the blood stream, followed by chest x-rays to show the dimensions of the heart and the large blood vessels.
14	Arthroscopy: - visual examination of the inside of a joint with an endoscope.
15	Assembling of Records: - arrangement of different forms in a standard prescribed order, e.g. outpatient file and inpatient file as recommended in the work procedures.
16	Assistant Medical Record Technician (AMRT):- is a trained employee of the Medical Record Department who works under the supervision of a Medical Record Technician (MRT).
17	Audiometric: - an instrument (audiometer) which delivers acoustic stimuli of specific frequencies to determine the patient's hearing for each frequency. The results are plotted on a graph called an audiogram.
18	Authorized Personnel: - are employees of the hospital and are directly involved with the medical care of the patient e.g. medical, nursing, and paramedical staff.
19	Autopsy: - examination of organs of a dead body (autopsy) to determine the cause of death, is also known as postmortem examination
20	Autopsy Rate: - the ratio during any given period of time of all autopsies to all deaths.
21	Average Daily Census: - the total number of inpatients days (exclusive of newborn) care rendered for a period is computed and divided by the total number of days in that period.
22	Average Length of Stay: - the total number of inpatient day's care rendered to discharged patients (exclusive of newborn) in a given fiscal period divided by the total number of patients (exclusive of

	newborn) who were discharged or who died during the same period. In computing the length of stay, the day of admission should be counted but not the day of discharge.
23	Bacteriology: - the study of bacteria and diseases caused by them.
24	Bassinets: - for the use of infant other than newborns. Bassinets used for newborn infants are not considered to be hospital beds and should not be included in the bed complement of a hospital.
25	Bed Complement: - it is the total number of hospital beds, exclusive of newborn bassinets, normally available for 24 hours service to inpatients in the hospital.
26	Bed Complement: - it is the total number of hospital beds, exclusive of newborn bassinets, normally available for 24 hours service to inpatients in the hospital.
27	Bed Occupancy Board:- this board is maintained by the admission office, is also termed as the “bed control board” or the “bed utilization board” for keeping the account of occupied and vacant beds in different wards of the hospital.
28	Benign Tumor: - a benign tumor is a slow growing neoplasm and does not metastasize. Benign tumors are limited in extent and often are surrounded by a capsule.
29	Biochemistry:- the science which deals with the chemistry of life.
30	Biopsy: - excision of tissue from a living body for microscopic examination to establish a diagnosis.
31	Birth: - is the acceptance of an infant patient newly born in the hospital for inpatient service. This involves occupancy of a newborn infant bassinet and maintenance of a hospital chart during the period of care.
32	Birth Weight: - the first weight of the fetus or newborn obtained after birth. This weight should be measured preferably within the first hour of life before significant postnatal weight has occurred.
33	Burn: - a lesion of the tissues due to chemicals, dry heat, electricity, flame, friction, or radiation. They are usually classified into three types: -First degree burns: no blisters; superficial lesions mainly in the epidermis; hyperesthesia; and erythema. -Second degree burns: damage to the epidermis and corium; blister; erythema; and hyperesthesia. -Third degree burns: both the epidermis and corium are destroyed and subcutaneous layer is damaged, leaving charred, white tissue
34	Caesarean Section: - delivery of the fetus by an incision through the abdominal and uterine wall.
35	Caesarean Section Rate: - the ratio of caesarean sections performed to viable births.
36	Carcinomas: - the largest group of solid tumors which are derived from epithelial tissue.
37	Cardiac Catheterization: - a thin flexible tube (catheter) is introduced into a vein or artery and is guided into the heart for detecting pressure and pattern of blood flow. Dye can also be injected and x-rays taken.
38	Cardiology: - the study of the structure, function, and disease of the heart.
39	Casualty: - this term is synonymous to “Accident and Emergency” or “Emergency”.
40	Causes of Death: - the causes of death to be entered on the medical certificate of cause of death are all those diseases, morbid conditions, or injuries which either resulted in or contributed to the death and the circumstances of the accident or violence which produced any such injuries.
41	Cauterization: - burning a part of tissue.
42	Census: - the number of inpatients present in a hospital or health care facility at any one time. Ward clerk (AMRT) will prepare a daily ward census report and send it to the Medical Record Department.
43	Centralized Filing System: - a system in which all information is filed in one central location. Outpatient and inpatient files are kept in medical record folder and filed in the Medical Record Department.
44	Central Processing Unit (CPU):- the part of a computer system that contains the circuits which control the interpretation and execution of instructions, including arithmetic, logic, and control functions.
45	Central Registration: - this section works around the clock to register new patients for outpatient and inpatient services. This section also maintains patient master index filing to enable verification of previous registration numbers.
46	Chart (Record) Analysis: - careful review of the entire record (patient file); identification of

	specific areas that are incomplete or deficient.
47	Chemotherapy: - is the administration of a drug which destroys microorganisms, parasites, or malignant cells within the body and is utilized in the treatment of infectious diseases.
48	Child Patient: - any patient less than 12-14 years is called a child patient, excluding newborn infants (born in the hospital).
49	Coding: - a numerical assignment that provides an organized approach to data retrieval. The term coding for disease and operation classification as per International Classification of Diseases and Operations. The medical record staffs are responsible for coding of diseases and operations.
50	Color coding: - is used in terminal digit filing system, in which ten different color strips or labels are used for numerals 0 to 9 to facilitate and to identify the numbers of records filed by color.
51	Communicable Disease: - causative agents which transfer disease from one person to another directly or indirectly.
52	Completion of Records: - completing the records (patient files) which are deficient in number of forms or content as per the established standards. The medical record staff reviews each case and notes the deficiencies of physician and other documentation.
53	Complication: - a disturbance occurring in the course of a disease and arising wholly or in part separate from the disease itself.
54	Comprehensive Record: - is the one which has all the required forms with detailed and complete clinical and other information in a patient file as per established criteria.
55	Computer: - an electronic device which stores, transmits, and manipulates information according to predetermined instructions known as a program.
56	Confidential Information: - a statement made to a physician, an attorney, or a clergyman in confidence with the implicit understanding that it should remain confidential. Patient health records are confidential documents.
57	Confidentiality: - status accorded to data or information which is sensitive for some reason and therefore must be protected against theft or improper use, and disseminated only to authorized individuals or organizations.
58	Consent: - concurrence of wills; voluntary yielding of one's will to the proposition of another; acquiescence or compliance. This is obtained in the hospital generally for rendering treatment and performing surgical procedures to patients.
59	Consultation: - a meeting of two or more physicians at the request of the attending physician or other authorized persons or body for study of a problem case, with necessary examinations to arrive at an accurate diagnosis and a written opinion as to prognosis, therapeutic measures, and recommendations proposed.
60	Contagious Disease: - one communicable by contact with an individual suffering from it or by contact with an object touched by that person.
61	Convalescent Patient: - a patient who is recovering from disease and who is preparing for normal activity.
62	Cribs: - equipped with sides or guards, for the use of young children (i.e., below 12-14 years of age).
63	Criteria: - predetermined elements against which aspects of the quality of medical service may be measured; for instance, two criteria for care of urinary tract infection might be the obtaining of a urinalysis and a urine culture.
64	Cross Index: - cross indexing of diseases and operations may be defined as listing on a card for a specific disease or operation entity, according to recognized classification, all essential data of each patient having that particular condition, with a cross reference on other cards to every other entity involved in the particular case.
65	Cryosurgery: - using cold temperature to destroy tissue. The cold is usually produced by a probe containing liquid nitrogen.
66	Data Bank: - computer term for storage of information.
67	Death Rate: - the ratio of total number of deaths in the hospital during any given period of time to the total number of discharges and deaths during that same time.
68	Deficiency: - a non-justifiable variation from expected standards.
69	Deficiency Check: - reviewing of outpatient and inpatient files for deficiencies by the Medical

	Record Department staff.
70	Dermatology: - the science which deals with the skin, its structure, function, disease, and treatment.
71	Detrimental: - harmful; damaging; undesirable.
72	Diagnosis: - is made on the basis of extensive knowledge about the patient such as family history, physical examination, and investigation including x-rays and laboratory tests. The following are some of different kinds: - Clinical diagnosis: - based upon symptoms shown during life, irrespective of the morbid changes producing them. - Final diagnosis:-a statement of opinion arrived at after extensive study, which is complete and accurate and is in conformity with the accepted medical terminology. - Pathological diagnosis: - based on gross and microscopic examinations of the structural lesions present.
73	- Differential diagnosis: - based on symptoms and physical signs of two contrasting diseases. - Provisional diagnosis: - based upon the availability of sources of information but subject to change. - Tentative diagnosis: - as above (provisional). - Preoperative diagnosis: - made before operation and based on clinical findings. - Post-operative diagnosis: - based upon findings observed during the operation.
74	Dilatation and Curettage: - Dilatation (widening) of the cervical opening is accomplished by inserting a series of probes of increasing size. Curettage (scraping) is accomplished by using a curette (metal loop at the end of along, thin handle) to remove the lining of the uterus.
75	Dialysis: - literally means “complete separation”. A dialysis machine (artificial kidney) can completely separate out from the blood the harmful waste products of the body which are normally removed in the urine
76	Direct Admission: - a patient admitted onto a ward and occupying a bed without processing through the admission office. This is permitted in emergency and obstetrics cases.
77	Discharge Analysis: - the tabulation of data on discharged hospital patients to reflect the professional services provided in a hospital.
78	Disease: - any deviation from or interruption of the normal structure and function of any part of the body. It is manifested by a characteristic set of signs and symptoms and in most instances the Aetiology, pathology, and prognosis is known.
79	Disease and Operation Index: - a numerical index of patient problems, diagnoses, and surgical procedures by individual categories. This work is performed by the Medical Record Department.
80	Dividers: - heavy-weight fabric forms of pressboard, used to designate different sections e.g. “Outpatient”, “Correspondence”, “Investigations”, and “Inpatient” records of the patient folder. Also used to designate alphabetical breaks in the Patient Master Index or numerical divisions of the Disease or Operation Index.
81	Doctor’s Conference Room: - area in the Medical Record Department allocated exclusively for doctors to periodically complete deficient records.
82	Doubtful Cases: - are those in which either hospital number or the name of the patient is recorded wrongly.
83	Echocardiography: - a diagnostic procedure in which pulses of high frequency sound waves (ultrasound) are transmitted into the chest and echoes returning from the surfaces of the heart are electronically plotted and recorded. This can show the structure and movement of the heart over time and may be useful in determining structural defects in the heart.
84	Elective Surgery:- a surgical procedure is planned or performed which is subject to the choice or decision of the patient or physician; applied to procedures that are advantageous to the patient but not urgent.
85	Electrocardiography (ECG or EKG):- the record of the electrical activity flows through the heart.
86	Electrocochleography: - a direct recording of the action potential generated following stimulation of the cochlear nerve.
87	Electro Convulsive Therapy (ECT):- a form of physical treatment occasionally used by psychiatrists mainly in the management of depression.

88	Electroencephalography (EEG):- ultrasonic waves are beamed through the head and echoes coming from brain structures are recorded as a image. This procedure is useful in detecting brain tumors, and hydrocephalus.
89	Electromyography (EMG):- the use of an instrument which records electrical current generated by inactive muscle.
90	Electrooculography (EOG):- the use of an instrument which records eye position and movement.
91	Emergency: - any condition which could result in serious permanent harm to a patient or aggravation of injury or disease, or in which the life of a patient is in immediate danger, and any delay in administering treatment could add to the danger. Casualty or Accident & Emergency (A/E) or Emergency is synonymous terms
92	Emergency Record: - patient file of an emergency or casualty or A/E patient. If the patient is transferred to outpatient or inpatient care, then the emergency record also becomes part of main patient file.
93	Emergency Treatment: - treatment immediately necessary to save life. For example: treatment of a fracture case is not, whereas the treatment of a shock and hemorrhage case is.
94	Endemiology: - the special study of endemic disease (recurring in an area e.g. Tuberculosis).
95	Endocrinology: - the study of the ductless glands and their internal secretions (hormones).
96	Endoscopy: - an instrument used for visualization of body cavities or organs.
97	Epidemiology: - a branch of medical science that deals with the incidence, distribution, and control of disease in a group of people (population)
98	Eponym: - a name or phrase formed from or including the name of a person such as Brigit's disease or Paget's disease.
99	Evaluation of Medical Record Service: - this evaluation should provide information on how effectively medical record services are being performed; e.g. how accurate is the filing of records or index cards, or how accurate is the disease index etc.
100	Fetal Death: - a death prior to the complete expulsion or extraction of the product of conception from the mother irrespective of the duration of pregnancy. Death is indicated by the fact that, after such separation, the fetus does not breathe or show any other evidence of life such as beating of heart, pulsation of the umbilical cord, or definite movement of voluntary muscle.
101	Early Fetal Death or Abortion: - completed less than 20 weeks gestation (500 grams or less).
102	Intermediate Death: - completed 20 or more week's gestation but less than 28 weeks gestation (501 to 1000 grams).
103	Late Fetal Death or Stillbirth: - completed 28 weeks gestation and over 1001 grams.
104	Filing: - placing a collection of records or cards in a methodical manner so that they may be instantly available:
105	Alphabetical Filing: - the method of filing charts or cards in strict alphabetical (dictionary style) sequence
106	Serial Number Filing: - the method of filing charts or cards in strict numerical sequence.
107	Centralized Serial: - the method of issuing one series of numbers to both the outpatient department and the inpatient department, and storing all records in one place. In addition, a patient is given a new number on each admission either in the outpatient department or in the inpatient department.
108	Centralized Serial Unit: - same as centralized serial, but the earlier records of the patient are brought to the folder of the latest admission
109	File Folders:- solid, two sided binders of Kraft, manila, press- board or patent composition used to store paper records. This term relates to a patient file (folder).
110	Follow-Up:- the periodic examination of a patient following disease or injury to determine the progress was being made toward complete recovery and normal health, and to study the end results of treatment.
111	Follow-Up Appointment: - giving an appointment for an existing patient to attend the relevant clinic on a particular date and time. All referral hospitals have to observe a follow-up appointment system in collaboration with the related health centers and hospitals.
112	Forensic Medicine: - also called "legal medicine". The application of medical knowledge to legal proceedings.
113	Format: - the arrangement of a form, or an organization of forms in a permanent folder, which

	directs the type of entries, the way entries are made, and the future use of those entries.
114	Fracture: - the breaking of a bone due to injury or disease; some terms describing fractures and related injuries are:
115	Closed Fracture: - a bone is broken but there is no open wound in the skin (simple fracture).
116	Open Fracture: - a broken bone with an open wound in the skin (compound fracture). Comminuted Fracture: - the bone is splintered or crushed.
117	Impacted Fracture: - the bone is broken, and one end is wedged into the anterior portion of the other.
118	Greenstick Fracture: - the bone is partially bent and partially broken as when a greenstick breaks.
119	Gastroenterology: - the study of the digestive tract, including the liver, biliary tract, pancreas and the accompanying diseases.
120	Gerontology: - the scientific study of the problems of aging in all their aspects: e.g., clinical, biological, historical, and sociological.
121	Gestational Age: - the duration of gestation is measured from the first day of the last normal menstrual period. Gestational age is expressed in completed days or weeks (e.g. events occurring 280 to 286 days after the onset of the last normal menstrual period are considered to have occurred at 40 weeks of gestation).
122	Gynecology: - study of the female reproductive system (organs, hormones, and diseases).
123	Health Center: - generally provides primary care and, if requiring further special care, refers the patient with a referral letter to an appropriate hospital.
124	Health Information: - any data pertains to the physical, mental, or social well-being of an individual or group of individuals
125	Health Record: - documentation of direct or indirect health care services to patients or clients by providers and users of the data in any type of health-related institution
126	Hematology: - the science dealing with formation, composition, function, and disease of the blood.
127	Homonyms: - word of same forms as another word but with different meaning (different spelling but pronounced alike).
128	Hospital Bed: - a bed installed for regular 24 hour use by an inpatient (other than newborn infant) during his or her period of hospitalization.
129	Hospital Inpatient: - a hospital patient who is provided with a bed, a room, board, medical care, and continuous general nursing service in an area of the hospital where patients generally stay at least overnight.
130	Hospital Number: - is a unit number allocated to a new patient who visits the hospital for outpatient or inpatient service for the first time. This is a permanent number used for all episodes and subsequent admissions. Patient files including relevant forms are represented by this number.
131	Hospital Record: - a written account of all the services provided to the patient as an outpatient, emergency, or inpatient from the time of the visit or admission until discharge. This identifies the dates, the ward, the bed, and the room where the patient was physically located, the names of the physicians, the nurses, and the other health professionals who provided care, and the results of that care.
132	Immature Infant: - is a live born infant with a recorded birth weight of 2500 grams or less.
133	Immunology: - the study of the immune system of lymphocytes, inflammatory cells, associated cells, and protein which affect the individuals response to antigens.
134	Implied Consent: - that which is given by mutual understanding.
135	Incident Report: - in the event of occurrence of an incident in which the patient has suffered during hospitalization that was recorded and intimated to the concerned officials.
136	Incomplete Record: - any hospital record of an outpatient or a discharged patient was lacking essential data.
137	Index: - an organized and condensed list of data selected and recorded on a designed index for easy and quick retrieval of information
138	Infectious Disease: - a disease due to organisms ranging in size from viruses to parasitic worms; it may be contagious in origin, result from nosocomial organisms, or be due to endogenous micro flora from the nose, throat, skin, or bowel.
139	Information: - knowledge or intelligence; facts and data.

140	Informed Consent: - that which is documented to show the following: all procedures and treatment explained (including advantages and disadvantages) signed by a person giving consent as a result of their own decision.
141	Inpatient: - is defined as a person who occupies a hospital bed, crib, or bassinet while housed in a hospital, for observation, care, diagnosis, or treatment.
142	Inpatient Census: - the number of inpatients present at any one time in all of the hospital wards.
143	Inpatient Discharge: - the release of a hospitalized inpatient from the hospital by the admitting physician after providing necessary medical care for a period deemed necessary.
144	Institutional Deaths: - are those which occur 48 hours or more after admission.
145	International Classification of Diseases (ICD): - a basic system of three-digit categories with four- and five-digit subcategories in some areas as recommended by the World Health Organization.
146	Job Description: - a document contains information about a position such as required education, training, and experience, as well as lines of authority and designation of supervisor, with a description of general duties and responsibilities and major job functions.
147	Laparoscopy: - endoscopic examination of the interior of the abdomen by means of a laparoscope.
148	Legal Liability: - accepting responsibility before the court of law for reasonable care of the patients with reasonable maintenance of facilities for that purpose.
149	Length of Stay: - the number of days a patient remains in a facility (the day of admission should be counted but not the day of discharge unless the patient was admitted the same day).
150	Live Birth: - is the complete expulsion or extraction from the mother of a product of conception, which, after such separation, breaths or shows any other evidence of life such as beating of heart, pulsation of the umbilical cord, or definite movements of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached; each product of such birth is considered a live birth.
151	Low Birth Weight: - less than 2500 grams (up to, and including 2499 grams).
152	Malignant Tumor: - one that has the properties of invasion and metastasis and that shows a greater degree of anaplasia than do benign tumors.
153	Malpractice: - improper, careless, or Ignorant treatment.
154	Maternal Mortality: - the death of a woman while pregnant or within 42 days of termination of pregnancy irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.
155	Medical Audit: - an evaluation system in which established standards are used to measure performance. Once corrective action has been taken on problems identified through this review process, performance is re-measured after an appropriate time period.
156	Medical Board: - a meeting or conference of the medical staff of the hospital held for the purpose of reviewing and analyzing the clinical work of the hospital. This board deals with death cases, unimproved cases, infection, complications, or performance not conforming with the standard. The board also deals with problems concerning organization and management of the various medical services of the hospital.
157	Medical Care Evaluation: - a structured program to measure the quality of care given to patients. It is a global term that encompasses methods used to carry out such measurement functions as audit, appraisal, peer review, quality assurance, and assessment in various specific forms.
158	Medical Certificate: - is a document containing disease and injury specifications and duration of treatment of a patient in the emergency, outpatient, or inpatient areas of a hospital and attested to by the treating physician.
159	Medical Consultation:- the response by one member of the medical staff to a request for consultation by another member of the medical staff, characterized by review of the patient's history, examination of the patient, and completion of a consultation report presenting recommendations and opinions.
160	Medical File:- or medical record or patient record or patient file all are synonymous terms. This file contains both outpatient and inpatient records.
161	Medical Record: - is an orderly written report of the patient's history, physical, laboratory findings, treatment, and hospital course. When complete, it should contain sufficient data to justify the diagnosis and also describe the result of the care rendered.

162	Medical Record Committee: - a committee which ensures that accurate and complete medical records are developed and retained for every patient treated. Also evaluates the work of the Medical Record Department to ensure that the department is functioning efficiently.
163	Medical Record Department (MRD):- is one of the important departments in the hospital responsible for proper custody of the medical records of the patients, for conducting medical audits, for preparing reports necessary to demonstrate the quantity and quality of medical practice, and for assisting in the advancement of medical science through assuring accurately recorded data.
164	Medical Record Form: - is a piece of paper or card, which is a formal arrangement of information (usually with spaces for the entry of additional information). A set of 90 basic medical record forms are recommended for adequate patient care in the hospital.
165	Medical Record Officer (MRO):- is an individual responsible for establishing, organizing, and controlling a Medical Record Department which initiates medical records for patient care. The MRO is also responsible for developing a good information system to compile and distribute patient or client data. He or she is the chief administrator of the Medical Record Department (MRD).
166	Medical Record Technician (MRT):- is a trained person who works under the supervision of a medical record officer. He or she is an intermediate supervisory staff person and performs most of the technical jobs in the department and supervises the work of the assistant medical record technicians.
167	Medical Report: - is a document containing medical information such as history, physical examination, investigations, diagnosis, and treatment including surgical procedures, end results, duration of treatment, and recommendations about a patient treated in the hospital.
168	Medical Social Service:- the sociological investigation of a patient and his environment to ascertain any factors which might have a bearing on the diagnosis, treatment, and aftercare of the patient, followed in close collaboration with the physician with respect to the findings.
169	Medico legal Case (MLC):- case which is accidental, suicidal, or homicidal. The casualty medical officer (CMO) determines a case as medico legal or not. Except in minor injury cases, all cases of traffic accidents, burns, poisonings, and quarrels have to be treated as medico legal cases.
170	Metastasis: - tumor spreading from its primary location to secondary sites throughout the body.
171	Medicine: - 1. The science or art of healing, especially as distinguished from surgery and obstetrics. 2. A therapeutic substance such as a drug.
172	Microbiology: - the science which deals microorganisms.
173	Microfilming: - a process of photographing and reducing a given report to a miniature of the original on film. The Medical Record Department may microfilm certain old records as per the "record retention schedule" as recommended by regulations.
174	M.O.H:- Ministry of Health.
175	Morbidity: - the incidence of disease or proportion of diseases in a given population; statistical data that represents rates or ratios of disease.
176	Morphology: - the science which deals with the structure and form of living things.
177	Mortality: - the incidence of deaths or the proportion of deaths in a given population; statistical data that represents rates or ratios of deaths.
178	Necropsy (Autopsy):- post-mortem examination; see "Autopsy".
179	Neonatal Death: - an infant's death occurring less than 28 completed days after delivery.
180	Neoplasm: - new growth; tumor.
181	Nephrology: - the special study of the kidneys and the diseases which affect them.
182	Neurology: - I. the science and study of the nerves, their structure, function, and pathology. 2. The branch of medicine dealing with diseases of the nervous system.
183	Newborn: - any infant newly born in the hospital.
184	New Patient: - a new patient is one who visits the hospital for the first time, for whom a new hospital number has to be allocated, or an outpatient record has to be created after obtaining accurate and complete identification data.
185	Non-Institutional Deaths: - are those which occur under 48 hours after admission.
186	Numbering System: - an identifying method that utilizes assigned numbers to label each record for filing in a systematic manner to facilitate easy retention and retrieval.
187	Obstetrics: - is a specialty concerned with pregnancy and delivery of the fetus.

188	Odontology (Dentistry):- the science which deals with the structure, function, and diseases of the teeth.
189	Old Medical Records:- are those records which are inactive and kept for a certain duration or period as per the retention schedule for administrative, educational, research, and legal purposes. These include patient files, x-rays, medical registers, reports, index cards, etc.
190	Old (Follow-up) Patient:- is one who has been treated in the hospital either as an outpatient or inpatient for whom a patient file with hospital number exists.
191	Oncology:- the scientific study of tumors.
192	On-Line:- a device that currently is an operating part of the computer system. A terminal is on-line if it is logged into the system. An idle service is on-line if it may be activated by the computer
193	Operation Index:- does a card possess patient information about particular surgical operation undergone by different patients. Operation indexing is performed by the medical record staff.
194	Ophthalmology:- the science which deals with the structure, function, and diseases of the eye.
195	Oral Surgery:- pertaining to structures found in the mouth.
196	Orthopedics:- branch of study dealing with all conditions affecting the loco motor system.
197	Otorhinolaryngology (E.N.T):- the science which deals with the structure, function, and diseases of the ear, nose, and throat.
198	Out guide Card:- this is also known as the “tracer card” or “locator”. This card contains patient identification information which indicates the movement of the patient file.
199	Outpatient:- is a person who makes use of the diagnostic or therapeutic services of a hospital but does not occupy a regular bed.
200	Outpatient Clinic Schedule:- is the list of patients new and established to be seen in the clinic. Each unit in consultation with the administration and medical record officer decides upon the number of patients (new and established) to be seen in the clinic and the appointments are booked accordingly.
201	Outpatient Record:- is a patient file created with a hospital number for treatment as an outpatient and generally comprises: the medical record folder, the outpatient form, the history and physical examination report, the outpatient follow-up form, laboratory and x-ray mount sheets, and other special forms added wherever required
202	Paramedical:- are those personnel who are qualified to render treatment or assist in patient care under the supervision of the medical staff e.g. occupational therapists, radiographers, laboratory technicians, and so on.
203	Pathology:- the science which deals with the cause and nature of disease.
204	Patient Day:- a unit of measure for the service rendered an inpatient between the census-taking hours on two successive days, the day of discharge being counted only if the patient was admitted the same day. Only patients admitted, assigned a bed, and having a medical record initiated should be counted in the census. When a patient is admitted and discharged the same day, the length of stay should be considered as one patient day.
205	Patient File:- medical record.
206	Patient Master Index (PMI):- a 5” x 3” card containing patient identification information with hospital number; this card is filed in the central registration section in strict alphabetical order. This process assists in tracing out whether a patient has registered previously or not. This is also known as “master patient index”.
207	Pediatrics:- any patient less than 12-14 years of age, treated by a pediatrician on a pediatric unit is considered as a pediatric patient or child patient.
208	Pharmacology:- the science that deals with the origin, nature, chemistry, and uses of drugs, as well as their effects on the body.
209	Physiology:- the science which deals with the normal functions of the body.
210	Policy:- a basic guide of action which prescribes the boundaries within which activities are to take place.
211	Pregnancy:- the condition of having a developing embryo or fetus in the body after union of an ovum and a spermatozoon. In normal pregnancy, the embryos develop within the uterus. In an ectopic pregnancy, the embryo is implanted outside the uterus, it is most commonly found in the fallopian tubes, and sometimes in the ovary or in the abdominal cavity.

212	Premature Infant: - is a live born infant with a period of gestation of less than 37 completed weeks, or specified by the obstetrician as “premature”.
213	Pre-Numbered Folder: - patient files with required forms numbered well in advance and kept ready for registration of new cases.
214	Presentation (Obstetrical): - the relationship of the long axis of the fetus to that of the mother. There are two divisions, the longitudinal, in which the head or breech may be present, and the transverse in which the shoulder is the presenting part and may include shoulder, arm, or any other part of the trunk. - Breech:- presentation of buttocks or feet of the fetus in labor; breech presentation complete mean presentation of the buttocks in labor, with the feet alongside of the buttocks, the feet being in the same position as in vertex presentation, but with polarity reversed. - Cephalic (Head):- presentation of any part of the fetal head in labor, including occiput, brow, or face. - Transverse: - shoulder; scapula is the point of direction.
215	Preservation of Records: - patient files and related documents are preserved in a safe location and well protected area for the period recommended in a “record retention schedule” furnished by regulations.
216	Privacy: - a right to declare information confidential and to recognize formally the patient’s inherent right to privacy.
217	Privileged Communication: - any information acquired by a physician or surgeon in attending a patient which was necessary to enable him or her to prescribe or act for the patient and which cannot be revealed in a civil action without the consent of the patient.
218	Procedure: - an act or manner of proceeding or method of conducting a business proceeding. A procedure is a series of tasks designed to accomplish work in a given time.
219	Processing of Records: - reviewing of records (files) to determine whether the records are quantitatively and qualitatively complete. This also refers to effective documentation of the details of the patient’s history and physical examination, other diagnostic measures, specific treatment procedures, etc.
220	Prodrome: - symptoms of disease (such as rash or fever) which appear before and signal the onset of an approaching more severe illness.
221	Prognosis: - a prognosis made by a doctor after diagnosis about the nature of the patient’s illness. It is a prediction about the disease.
222	Psychiatry: - the branch of medical study devoted to the diagnosis and treatment of mental illness.
223	Qualitative Analysis: - retrospective review program by the organized medical staff. It assesses the quality of care as compared to locally or internally developed standards and verifies that the standards or exceptions are met, that deficiencies are corrected, and that the original problem is reassessed on a planned program basis.
224	Quality Assurance: - activities performed to determine the extent to which a phenomenon fulfills certain values and standards, and to assure changes in practice that fulfill the highest of a predetermined level of values.
225	Quality Assurance Program (QAP): -is a comprehensive and coordinated network of formal mechanisms that provide ongoing objective assessment of patient care services and the correction of identified problems.
226	Quality Control: - is defined as those evaluation procedures that are performed systematically to ensure that established policies and standards are being met.
227	Quantitative Analysis:- the responsibility the Medical Record Department to check and analyze the component parts of the medical record to ensure that it is complete, adequate, and accurate, and is available at all times for legitimate needs of the patients, the hospital, and the physician.
228	Radiology: - the study of the diagnosis of disease by using x-rays and other allied imaging techniques.
229	Record Control: - is the supply of records (patient files) for patient care, administrative, and other reasons and the collection and accounting for that effective control, as well as the safeguarding of the confidentiality of information.
230	Referral: - are of two types: from outside e.g. from health centers and other hospitals or from

	inside e.g. within the hospital from one department to another. Any referral of a patient must be on a written prescribed document. Referral forms are in triplicate. When a health center refers a patient, two copies are given to the patient to be forwarded to the hospital, and the third copy is retained by the patient. After treatment, the hospital returns one copy with details as feedback information to the health center and retains one copy in the hospital.
231	Relapse: - a relapse is the reappearance of symptoms of disease.
232	Remission: - a remission is the lessening or disappearance of disease symptoms.
233	Reports: - relating to statistics: daily, monthly, and yearly. Daily report is the analysis of hospital services which include the work performed by the different departments such as outpatient, accident/emergency, inpatient, and allied departments. Monthly report is a cumulative daily report for calendar months with ratios (or percentage rates) of service facilities used, and other statistical data and rates. Annual report is a compilation of the twelve monthly reports. The figures are cumulated monthly, just as the monthly report figures are cumulated from daily analysis.
234	Responsibility for Medical Certificates of Cause of Death: Medical certification of cause of death should normally be the responsibility of the attending physician. In the case of deaths certified by coroners or other legal authorities, the medical evidence supplied to the certifier should be stated on the certificate in addition to any legal findings.
235	Retention of Records: - keeping information for a specific period so that it may be used in the future. Planning, implementation, and control of a system that safeguards physical and information characteristics of medical or health data for future use. The patient files and other documents are retained in accordance with the "record retention schedule" as suggested per regulations
236	Review: - examination of a medical record by a physician to determine if continued hospitalization is medically necessary.
237	Sarcomas:- rare types of cancer which are derived from supportive and connective tissue, such as bone, fat, muscle, cartilage, bone marrow, lymphatic tissue, or blood cells.
238	Serial Numbering: - a system of numbering in which the patient is assigned a new number each time treatment is received.
239	Specific: assigned treatment devised for specific action.
240	Sphygmomanometer: - instrument to measure blood pressure.
241	Stages of Labor: - the act of giving birth to a child. The following three stages are recognized. First stage: from beginning of labor to complete dilatation Second stage: from complete dilatation to birth of infant. Third stage: from birth of infant to expulsion of placenta.
242	Standard: - generally, a measure set by a competent authority as the rule for measuring quantity or quality. Conformity with standards is usually a condition of licensing, accreditation, or payment of service.
243	Sterilization: - the act or process of rendering sterile; the process of freeing from germ life. A procedure by which an individual is made incapable of reproduction by undergoing surgery such as a vasectomy or a tubectomy.
244	Stethoscope: - an instrument used for listening to the various body sounds, especially those of the heart and chest.
245	Stillbirth: - fetal death
246	Suit: - an action or process in a court of law for the recovery of right or claim.
247	Summons: - a process (document) served on a defendant in civil court action to secure his or her appearance in the action.
248	Surgery: - is the branch of medicine which treats diseases, deformities, and injuries wholly or partly, by manual or operative procedures
249	Symbiosis: - refers to the living together in close association of two organisms, either for mutual benefit or not. The bacteria which normally lie in the digestive tract of humans are an example of symbiosis.
250	Symptomatic: directed towards the removal of the cause based on the treatment of symptoms as they are manifested.
251	Syndrome: - is a group of signs or symptoms which commonly occur together and indicate a particular disease or abnormal condition. An example of a syndrome is Homer's syndrome,

	characterized by ptosis of the eyelid, enophthalmos, and cool, dry face on the affected side due to nerve damage.
252	System:- related elements that are coordinated to form a unified result, specifically people, activities, equipment, materials, plans, and controls, working together to achieve a unified objective or whole; an array of components that interact to achieve some objective through a network of procedures that are integrated and designed to carry out a major activity.
253	Terminal Digit Filing: - a method of filing by the last digits of a number instead of by the first digits. The entire number is broken into groups of twos or threes, with the last group being filed first. This system is suggested to all the referral hospitals.
254	Topography: - a description of the regions of the body.
255	Toxicology: - is the study of harmful chemicals and their dangerous effects on the body.
256	Transfer of Patient: - if a patient is transferred within the hospital (except from casualty) from one unit to another, the same patient file will be continued for the duration of treatment except for change of ward census. In the case of a patient transferred from other hospitals, the case has to be registered and a record has to be created (if he or she is not an established patient).
257	Traumatology: - the branch of surgery dealing with injury caused by accident.
258	Treating Physician: - is one under whose care, the treatment to the patient is rendered. Physician can be a Surgeon, a Pediatrician or an Obstetrician or Gynecologist. This term is synonymous to a medical doctor.
259	Treatment: - the application of any measure to assist in bringing about the cure of disease or relief of symptoms or to correct the disturbances of the function was arising from an infection. Therapeutics or therapy is the general term for all forms of treatment of disease. The kinds of treatment are:
260	Prophylactic: aimed to prevent the occurrence of disease.
261	Palliative: designed to check or to reduce symptoms.
262	Underlying Cause of Death: - the underlying cause of death is the disease or injury which initiated the chain of events leading directly to death or the circumstances of the accident or violence which produced the fatal injury.
263	Unit numbering: - a system in which only one number is assigned to the patient's record and is retained permanently
264	Unit Numbering System: - whereby only one serial number is given to the patient irrespective of the number of admissions either in the outpatient department or in the inpatient department and all records of the patient are available in one folder.
265	Unit Record System: - a method that compiles all information on a single patient or subject and records it in one document and file folder.
266	Urology: - the branch of medicine which deals with disorders of the female urinary tract and with disorders the male genital urinary tract.
267	Utilization Review: - the evaluation of the necessity, appropriateness, and efficiency of the use of medical services, procedures, and facilities. In a hospital, this includes review of the appropriateness of admissions, services ordered and provided, length of stay, and discharge practices on a concurrent and retrospective basis. This can be done by a utilization review committee, by peer review, or by any other assigned committee.
268	Venereology (sexually transmitted disease):- the study and treatment of diseases transmitted during sexual intercourse.
269	Viable Infant: - a fetus that has reached a stage of development that has enabled itself to live outside the uterus, usually consider and as 28 completed weeks of gestation or more.
270	Virology: - the study of viruses and the diseases caused by them.

CELL

INTRODUCTION

A cell is mass of protoplasm containing a nucleus. It is the unit structure and the fundamental part of life, which carries various functions such as reproduction, respiration, excretion and adaptation to the environment. The human body is made up of a trillion numbers of cells of different types. The size of the cell is about 10 to 30 mm in diameter.

All cells are similar in that they contain a gelatinous substance composed of water, protein, sugar, acids, fats and various minerals. This substance is called protoplasm. Several parts of a cell are described below and pictured schematically.

STRUCTURE OF CELL (FIG. 2.1)

1. Cell membrane—covering or outer layer of the cell which protects the internal environment and determines what passes in and out of the cell.
2. Protoplasm—a white fluid, like the yolk of an egg, which consists of water, electrolytes, proteins, lipids and carbohydrates. The protoplasm forms the cytoplasm and the nucleus.
3. Cytoplasm is the protoplasmic material outside the nucleus. It triggers the work of the cell such as contraction in the muscle cell and transmitting impulses in the nerve cell. The cytoplasm contains mitochondria, endoplasmic reticulum, ribosomes, lysosomes, Golgi bodies, and the centrosome.
4. *Mitochondria*: It is responsible for the production of energy in the cell by breaking up the complex food structure into simpler substances. This process is called catabolism. It is also called as, kitchen cell (power house).
5. *Endoplasmic reticulum*: A tubule like structure. It contains small bodies called ribosomes which help to make substances (proteins) for the cells, this process is called anabolism.
6. *Nucleus*: It is the controlling structure of the cell. It controls the cell reproduction, and contains genetic material which determines the functioning and structure of the cell.
7. *Chromosomes*: There are 23 pairs of chromosomes; each chromosome consists of a chain of small units called genes made up of deoxyribonucleic acid (DNA) (hereditary information) and ribonucleic acid (RNA). Out of 23 pairs of chromosomes, 22 pairs are autosomes and 1 pair is sex chromosome which decides the sex. A female has 2 X (X, X) chromosomes whereas the male has 1X, 1Y chromosomes.

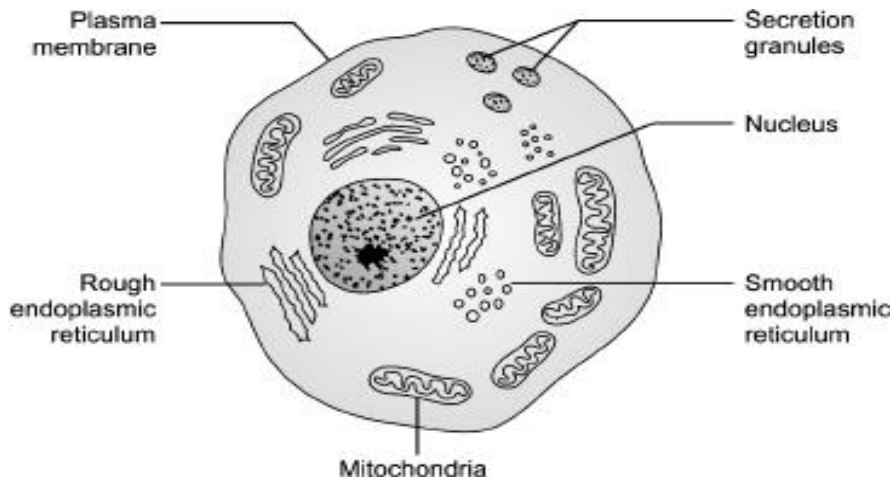


Fig: 2.1: Structure of cell

FUNCTIONS OF THE CELL

- *Absorption:* The ability of the cell to absorb or take in oxygen and food substances.
- *Nutrition:* The intake of food substances by the cell.
- *Growth:* It provides the metabolic process to enable the cell to grow to its full size and will be able to function correctly.
- *Reproduction:* On reaching maturity, the cell will divide to form two smaller cells.
- *Removal of waste products:* The removal of waste products produced during metabolism.
- *Movement:* Many cells have the power of movement.

CELL DIVISION

Division of cells is for the growth of the organism and for the replacement of damaged cells. There are two types of cell division:

Mitosis

A process of cell division which produces two new daughter cells (identical to the parent cells), e.g. plants, this involves a series of changes in which there is a rearrangement of centrioles and chromosomes so that each of the two new cells has a nucleus with 23 pairs of chromosomes. Mitosis is the common type of cell division that occurs in the body cells. It consists of four phases—prophase, metaphase, anaphase and telophase.

Prophase: The centrosome divides and the centrioles move to the opposite poles of the cells with the spindle fibers.

Metaphase: The chromosomes align themselves at the center of the nucleus and become attached to the spindle fibers.

Anaphase: Each chromosome splits into two chromosomes. The separated chromosomes move towards the opposite poles of the cell. The centrioles are divided to form new centrosome.

Telophase: A new nuclear membrane forms around each set of chromosomes and the spindle fiber disappear. The cytoplasm and cell membrane constrict. Finally, the cell splits into two identical cells.

Meiosis

Cell division occurring in maturation of sex cells, wherein over two successive cell divisions occurs. Each daughter nucleus receives half the number of chromosomes typically to the somatic cells of the species.

The cell division occurring in the human reproductive system is called meiosis. Each person, male or female has 23 pairs of chromosomes comprising of 22 pairs of autosomes and 1 pair of sex chromosomes or somatic chromosomes. In the meiosis cell division, the daughter cell receives equal number of chromosomes from the parent cells, i.e. 22 pairs of autosomes from father and mother, the male has XY sex chromosomes, whereas the mother has X and X chromosomes. The sex of a child clearly depends on whether it inherits X or Y chromosome from its father.

TISSUE FLUID

Tissue fluids are of two types: intracellular and extracellular. The fluid inside the cell is called intracellular fluid while the fluid outside the cell is called extracellular fluid. Tissue fluid acts as a sort of middle man between the blood and tissues, supplying food and oxygen to the cell and removing waste products from the cell.

TISSUES

A tissue is a group of similar cells working together to do a specific job. A histologist is one who specializes in the study of tissues. Tissues can be classified into four major types:

1. Epithelium
2. Connective tissue
3. Muscular tissue
4. Nervous tissue.

Epithelium

The various types of epithelial tissues are as follows:

Simple Squamous Epithelium

A single layer of flat cells found in alveoli of lungs, the lining of the interior of the heart and blood vessels and the lymphatic vessels.

Stratified Squamous Epithelium

It is composed of cells which are flat and round. It is found in all parts of the body. The skin is composed of stratified squamous epithelium.

Transitional Epithelium

Cells which provide water tightness; it is found on the lining of urinary tract.

Columnar Epithelium

Cylindrical-shaped cells found in the secretory glands of the body.

Ciliated Epithelium

The free surface of each cell surrounded by fine hair like structures called cilia. It is found in the lining of (nasal cavity, trachea and bronchi) the respiratory system.

Connective Tissue

Connective tissues are fat (also called adipose tissue), cartilage (elastic, fibrous tissues attached to bones), bone, or blood tissues. They are present in different forms in the body. It is a jelly like substance and is hard.

Fibrous Tissue

There are two types of fibrous tissues:

1. White fibrous tissue
2. Yellow elastic tissue.

White fibrous tissue: It consists of bundles of white fibers which cannot stretch. It is found in tendons, ligaments, dura mater and outer layer of the pericardium.

Yellow elastic tissue: It consists of fibers which can stretch. It is found in the walls of arteries, bronchi and alveoli of lungs.

Areolar Tissue

Supporting tissues of the body: Found under the skin, mucous membrane and surrounding blood vessels and nerves.

Adipose Tissue

Found in all parts of the body where fat is deposited or stored, especially under the skin and around the eyes, heart and kidneys.

Cartilage

It is a flexible tissue found mainly in the skeleton. There are three different types of cartilage:

1. Hyaline cartilage
2. Fibrocartilage
3. Elastic cartilage.

Hyaline cartilage: It is bluish white tissue with a smooth glassy surface. It is found covering the ends of the bones, where they form joints (articular cartilage).

Fibrocartilage: It contains white fibrous tissue. It is found in intervertebral disks and semilunar cartilage of the knee joint where great strength combined with certain amount of elasticity is required.

Yellow elastic cartilage: It contains yellow elastic fibers and it is found in the epiglottis and pinna of the ear.

Muscular Tissue

The muscles are structures, which give the power of movements. Muscles are composed of thousands of elongated cells, called muscle fibers. Each contains a small nucleus. Bundles of muscle fibers lie side by side like threads. There are three different types of muscle tissue; they are voluntary, involuntary and cardiac.

Voluntary muscles are found in arms, legs and parts of the body where movement is voluntary. All the muscles attached to the skeleton are of this type and their functions are to move the bones at their respective joints and to help in maintaining the posture of the limbs and body as a whole. The microscopic structure of this muscle is striped in structure, i.e. white and black bands, hence it is also called striated muscle.

Involuntary muscles are found in the internal organs and structures of the body such as stomach, intestine, bladder, bronchi, blood vessels, and is, therefore, sometimes called visceral muscles. It cannot be consciously controlled and its nervous supply comes from the involuntary or autonomic nervous system. It is also called nonstriated or plain muscle.

The cardiac muscle is a special type of muscle found only in the heart. Although, it is an involuntary muscle, it has the form of striated muscle. It has the special property, not observed in other varieties of muscles, of automatic rhythmic contraction which can occur independently of its nervous supply.

Nervous Tissue

Nerve tissues conduct impulses all over the body. The muscles are structures which give the body the power of movements; almost every movement is governed by some portion of the nervous system which acts as a medium between brain and muscle.

ORGANS

Organs are structures composed of several types of tissues. For example, an organ like stomach is composed of muscular tissues, nerve tissues, and glandular epithelial tissues. The medical term for internal organ is viscera (singular: viscus). Examples:

Eye	Ear	Nose	Tongue
Heart	Lung	Stomach	Intestine
Hand	Leg	Liver	Spleen

SYSTEMS

Systems are groups of organs working together to perform essential fundamental functions of the individual. The different types of systems are skeletal, muscular, nervous, endocrine, circulatory, lymphatic, respiratory, digestive, urinary, reproductive systems. Although some systems are functioning individually, the functions of various systems are very closely connected and are dependent on each other. For example, mouth, esophagus, stomach, and small and large intestines are organs which compose the digestive system.

The main systems and their organs of the body are as given in Table 2.1.

S.No.	Name of the system	Organs / Part
1	Muscular system	There are three types of muscle tissues: a. Skeletal, voluntary or striated muscle b. Visceral, involuntary or smooth muscle c. Cardiac muscle.
2	Skeletal system	Bones—there are 206 bones in an adult sk system Joints a. Fibrous or fixed joints, b. Cartilaginous or slightly movable joints c. Synovial or freely movable joints.
3	A. Nervous system	A. The nervous system consist of: a. Brain b. Spinal cord c. Nerves.
3	B. Sense organs	B. Sense organs

		<ul style="list-style-type: none"> a. Eye b. Ear c. Nose d. Tongue e. Skin or integumentary system
4	Endocrine-system (ductless gland)	<ul style="list-style-type: none"> a. Pituitary gland b. Thyroid gland c. Parathyroid glands d. Thymus gland e. Pancreas (islets of Langerhans) f. Adrenal gland g. Sex glands (ovaries and testes).
5	A. Cardiovascular system or Circulatory system	<ul style="list-style-type: none"> A. Cardiovascular system <ul style="list-style-type: none"> a. Heart b. Aorta, artery, and arteriole c. Vena cava, vein, and venule d. Capillaries.
5	B. Blood and blood groups	<ul style="list-style-type: none"> B. Blood and blood group <ul style="list-style-type: none"> 1. Blood composition <ul style="list-style-type: none"> a. Plasma b. Blood cells <ul style="list-style-type: none"> 1. Leukocytes or white blood cells 2. Erythrocytes or red blood cells 3. Thrombocytes or platelets 2. Blood groups <ul style="list-style-type: none"> a. Blood group "A" b. Blood group "B" c. Blood group "AB" d. Blood group "O" e. Rhesus factor (Rh) <ul style="list-style-type: none"> 1. Rhesus factor positive (+) 2. Rhesus factor negative (-).
6	Lymphatic system	<ul style="list-style-type: none"> a. Lymph vessels b. Lymph nodes and other lymphatic tissues c. Spleen d. Thymus gland.
7	Respiratory System	<ul style="list-style-type: none"> a. Nose b. Nasal cavities and paranasal sinuses. c. Pharynx d. Larynx e. Trachea f. Bronchi (bronchus-singular) g. Bronchioles

		<ul style="list-style-type: none"> h. Alveoli (alveolus-singular) i. Lung capillaries (bloodstream).
8	Digestive system	<ul style="list-style-type: none"> a. Oral cavity (mouth) b. Pharynx c. Esophagus d. Stomach e. Enteron (small intestine) <ul style="list-style-type: none"> – Duodenum – Jejunum – Ileum f. Colon (large intestine) <ul style="list-style-type: none"> – Cecum – Ascending colon – Transverse colon – Descending colon – Sigmoid colon – Rectum g. Anus B. Accessory organs <ul style="list-style-type: none"> a. Salivary glands b. Liver c. Gallbladder d. Pancreas.
9	Urinary system	<ul style="list-style-type: none"> a. Kidneys b. Ureters c. Urinary bladder d. Urethra.
10	Reproductive system	<p>Male:</p> <ul style="list-style-type: none"> a. Testes b. Scrotum c. Seminiferous tubules d. Epididymis e. Vas deferens f. Seminal vesicles g. Ejaculatory duct h. Prostate gland i. Penis j. Urethra. <p>Female:</p> <ul style="list-style-type: none"> a. Ovaries b. Fallopian tubes c. Uterus d. Vagina

		e. Vulva f. Cervix g. Labia majora h. Labia minora i. Hymen j. Mammary glands (accessory organ).
--	--	---

BODY CAVITIES (FIG. 2.2)

A body cavity is a space within the body which contains internal organs (viscera). Some of the important viscera contained within those cavities are listed in Table 2.2

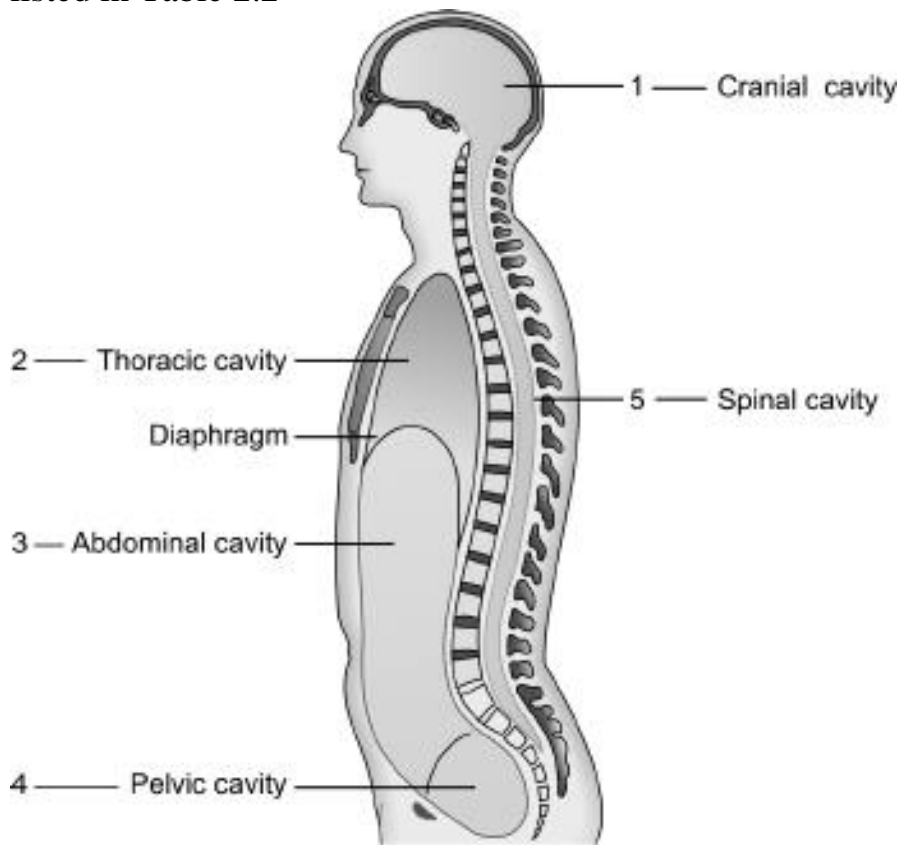


Fig. 2.2: Body cavities

Table 2.2 Some of the important viscera contained within body

S. No.	Name of the cavity	Organs/Parts
1	Cranial cavity	Brain
2	Thoracic cavity	Lungs, heart, esophagus, trachea, thymus gland, aorta, the thoracic cavity can be divided into two smaller cavities; The pleural cavity –the areas surrounded by the lungs. Each pleural cavity is lined with a double-folded membrane called pleura, visceral pleura is closer to the lungs, and parietal pleura is closer to the outer wall of the pleural cavity. The mediastinum cavity- the area between the lungs; it contains the heart, aorta, trachea, esophagus and thymus gland.
3	Abdominal cavity	Stomach, small and large intestines, spleen, liver, gallbladder and pancreas
4	Pelvic cavity	Ureters, urinary bladder, urethra; uterus and vagina in the female
5	Spinal cavity	Nerves of the spinal cord runs through vertebrae

TABLE 2.3 ANATOMICAL DIVISIONS OF THE BACK (SPINAL COLUMN WITH LOCATION AND ABBREVIATION TERMS)

S.No.	Division of the back	Abbreviation	Location
1	Cervical vertebrae	C	Neck region. There are 7 cervical vertebrae (C1-C7)
2	Thoracic vertebrae	T or D(Dorsal)	Chest region. There are 12 thoracic vertebrae (T1-T12). Each bone is joined to a rib
3	Lumbar vertebrae	L	Loin or flank region (between the ribs and the hip bone). There are 5 lumbar vertebrae (L1-L5)
4	Sacral vertebrae	S	Five bones (S1-S5) are fused to form one bone, the sacrum
5	Coccygeal	Nil	The coccyx (tailbone) is small bone composed of 4 fused pieces

ANATOMICAL DIVISIONS OF THE BACK (SPINAL COLUMN)

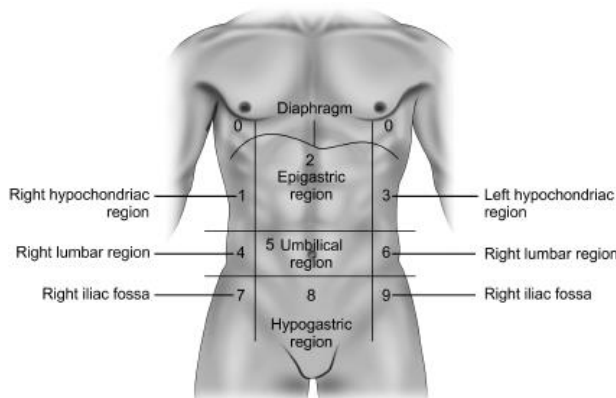


Fig. 2.3: Anatomical divisions of the body

CLINICAL DIVISIONS OF THE ABDOMEN (FIG. 2.4)

The following terms are used to describe the divisions of the abdomen when a patient is examined in clinic or bedside:

- Right upper quadrant (RUQ)
- Left upper quadrant (LUQ)
- Right lower quadrant (RLQ)
- Left lower quadrant (LLQ).

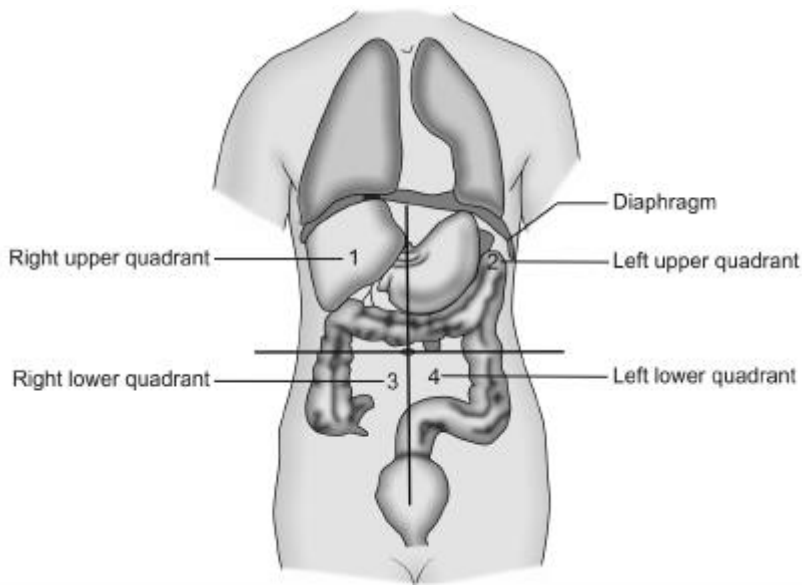


Fig. 2.4: Clinical divisions of the abdomen

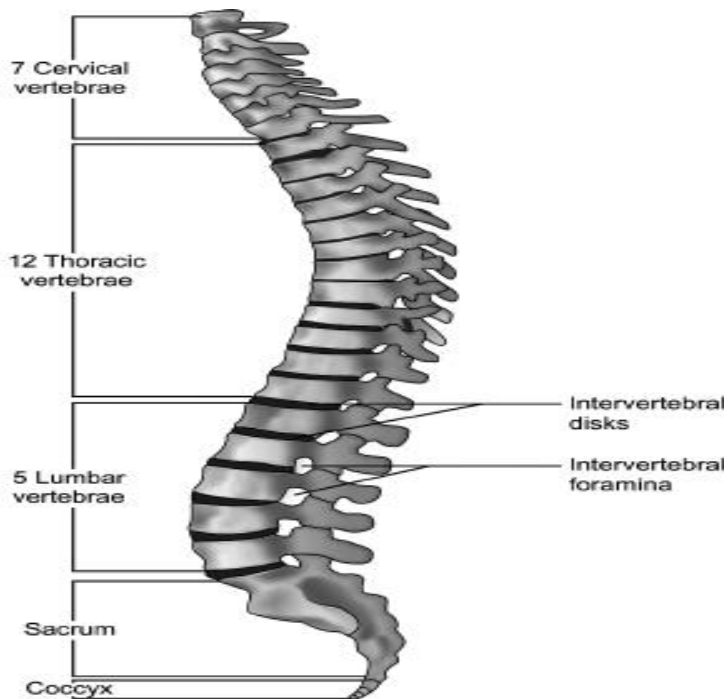


Fig. 2.5: Anatomical divisions of the back (spinal column)

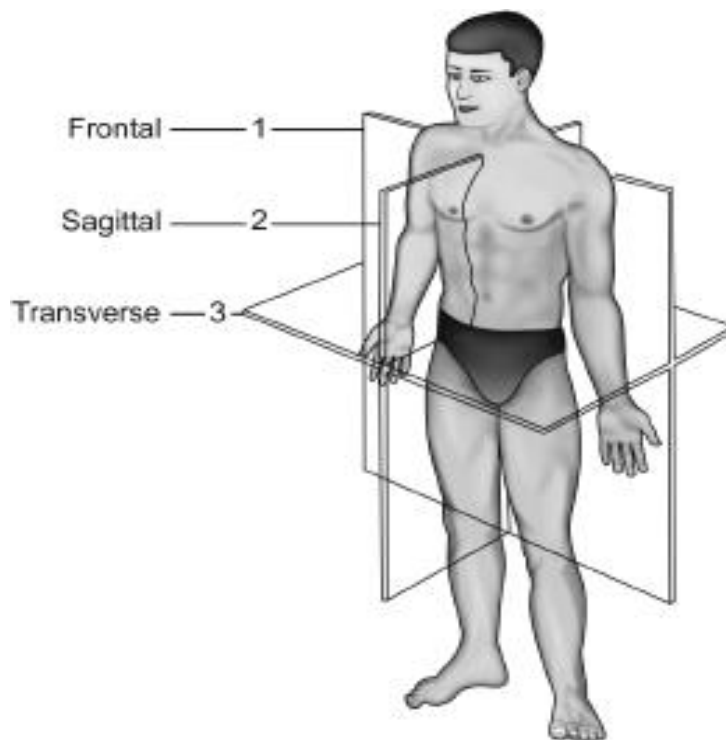


Fig. 2.6: Planes of the body

A PLANE IS AN IMAGINARY FLAT CROSS-SECTION. THE FOLLOWING TERMS ARE USED TO DESCRIBE THE PLANES OF THE BODY (TABLE 1.4):

TABLE: 2.4: PLANES OF THE BODY		
S.NO.	NAME OF THE PLANES	EXPLANATION
1	Frontal	Vertical plane which divides the body or structure into anterior and posterior portions.
2	Sagittal	Lengthwise vertical plane which divides the body or structure into right and left portions. The midsagittal plane divides the body into right and left halves.
3	Transverse	Plane running across the body parallel to the ground (horizontal). It divides the body or structure into upper and lower portions.

POSITIONAL AND DIRECTIONAL TERMS OF THE BODY (TABLE 2.5)	
POSITION	DESCRIPTION OF THE POSITION
Anterior	In front of the body
Posterior	At the back of the body
Central	Pertaining to the center
Deep	Away from the surface
Superficial	Near the surface
Distal	Away from the beginning of the structure or away from the center
Proximal	Pertaining to the beginning of a structure
Inferior	Below another structure
Superior	Above another structure
Lateral	Pertaining to the sides
Medial	Near to the median of the body (structure)
Supine	Lying on the back
Prone	Lying on the belly
Afferent	Towards the structure
Efferent	Away from the structure

The bones of the skeleton

The bones are classified according to their shape into long, short, flat and irregular bones.

Long Bones

Long bones are found in the limbs or extremities of the body and consist of long shaft with two extremities. The bones of the arm, forearm, thigh and legs are typical examples. The shaft consists of a cylinder of compact bone containing yellow bone marrow. The extremities are formed by Muscles (posterior view) thin outer shell of compact tissue with an interior network of spongy or cancellous bone containing red bone marrow.

Short Bones

Short bones have no shaft, but consist of smaller mass of spongy bones surrounded by a shell of compact bone. They are roughly box-like in shape. They are found in the small bones of the wrist (carpals) and ankle (tarsal).

Flat Bones

Flat bones provide broad surfaces for muscular attachment and extensive protection for internal organs. It is made of cancellous bone sandwiched by two compact bones. Examples are bones of skull, shoulder blades (scapula) and sternum.

Irregular Bones

Irregular bones cannot be classified under any of the previous types, because of their peculiar shapes. Examples are **bones of the face and the vertebra.**

Sesamoid Bones

Bones that are developed in the tendons of the muscles and are found in the vicinity of a joint. The patella is the largest sesamoid bone to quote as an example.

Bones of Anterior and Lateral View

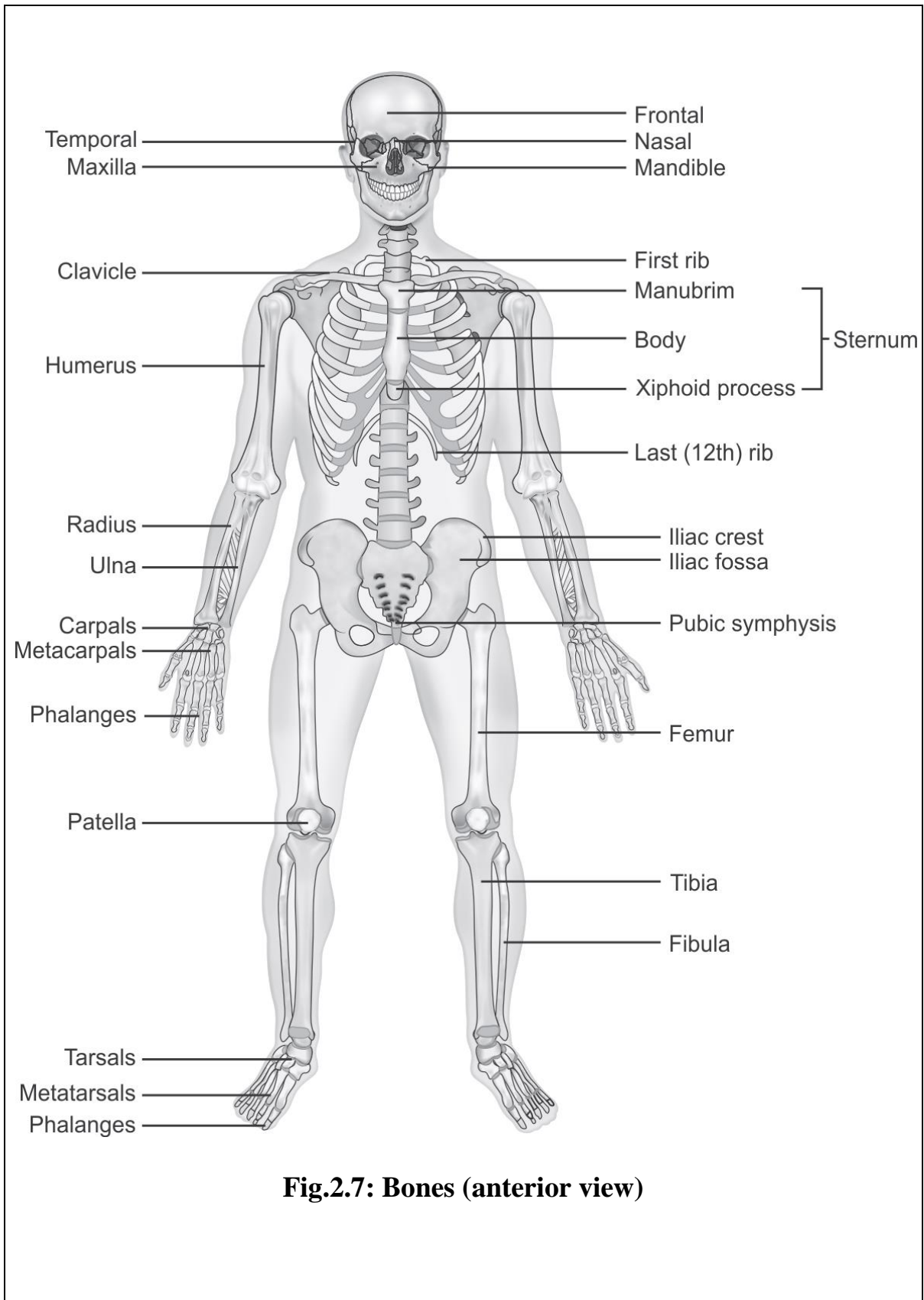


Fig.2.7: Bones (anterior view)

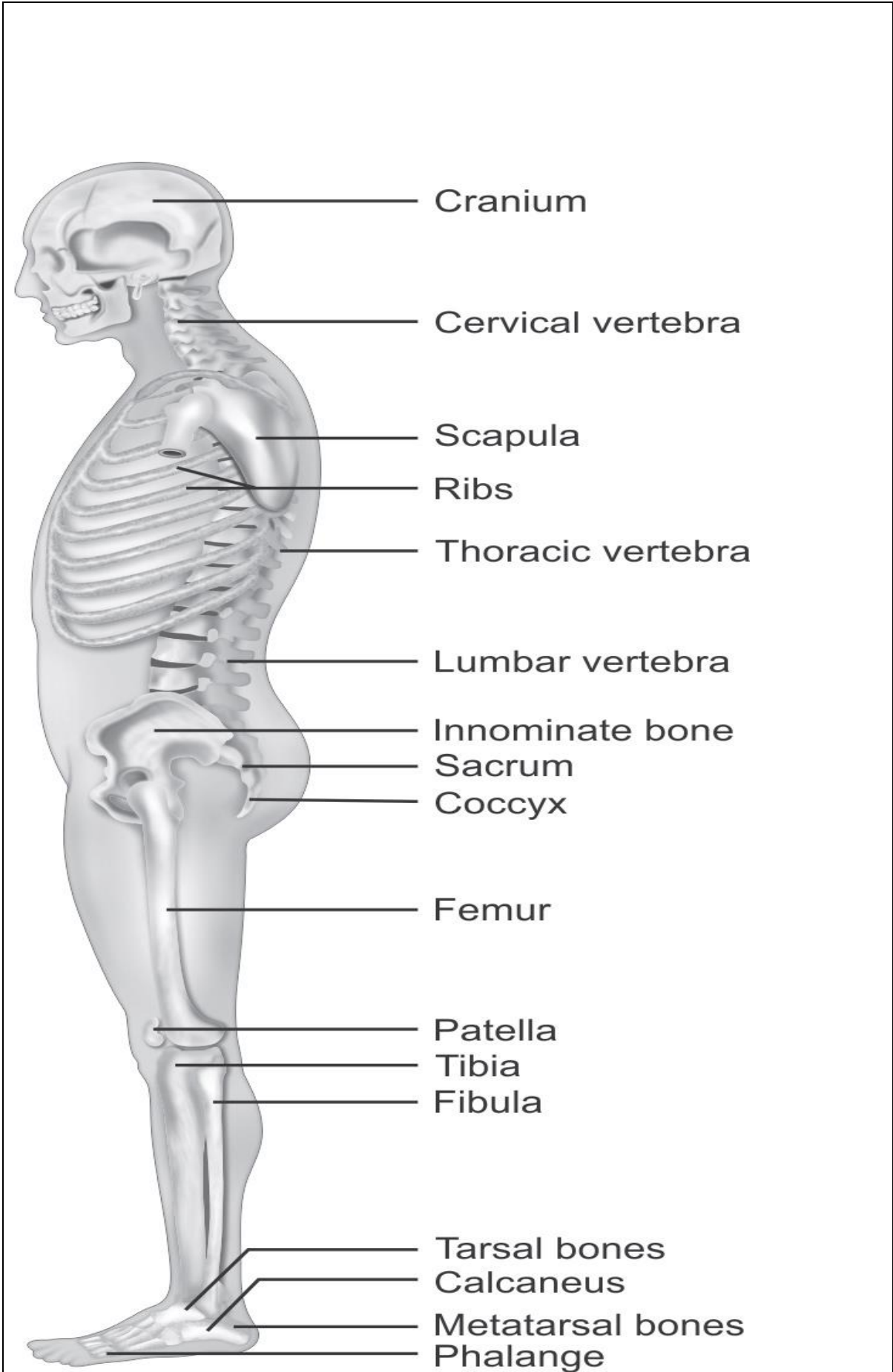


Fig.2.8: Bones (lateral view)

Names of Regional Bones

S. No.	Names of the Regions/Bones	No of Bones	Total No (s)
1	Axial skeleton		29
	Skull	8	
	<ul style="list-style-type: none"> • Frontal • Parietal 1 × 2 • Temporal × 2 • Occipital • Sphenoid • Ethmoid 		
	Face	14	
	<ul style="list-style-type: none"> • Inferior nasal concha × 2 • Lacrimal × 2 • Maxilla × 2 • Nasal × 2 • Palatine × 2 • Zygomatic × 2 • Vomer • Mandible 		
	Ear	6	
	<ul style="list-style-type: none"> • Malleus × 2 • Incus × 2 • Stapes × 2 		
	Neck	1	
	• Hyoid 1		
2	Thoracic cavity		51
	Vertebral columns	26	
	<ul style="list-style-type: none"> • Cervical 7 • Thoracic 12 • Lumbar 5 • Sacrum 1 • Coccyx 1 		
	Chest	25	
	<ul style="list-style-type: none"> • Sternum 1 • Ribs 12 × 2 		
3	Upper Limb		64
	<i>Shoulder</i>	4	
	<ul style="list-style-type: none"> • Scapula 2 • Clavicle 2 		

	<i>Upper arm</i> 2 • Humerus 2	2	
	Lower arm	4	
	• Radius 2 • Ulna 2		
	Hands	26	
	• Carpal 8 × 2 (16) • Metacarpal 5 × 2 (10)		
	Fingers	28	
	• Phalanges 14 × 2 (28) 28		
4	Lower Limb	62	62
	• Pelvis 2 • Femur 2 • Patella 2 • Tibia 2 • Fibula 2 • Tarsal 7 × 2 (14) • Metatarsal 5 × 2 (10) • Phalanges 14 × 2 (28)		
	Total		206

Brief description of structure and functions of the systems of the human body

1. Human Body: The human body is made up of a trillion numbers of cells of different types. A cell is a mass of protoplasm containing a nucleus. It is the unit structure and fundamental part of life, which carries various functions such as reproduction, respiration, excretion, and adaptation to the environment. All cells are similar in that they contain a gelatinous substance composed of water, protein, sugar, acids, fats, and various minerals. This substance is called protoplasm. A tissue is a group of similar cells working together to do a specific job. A histologist is one who specializes in the study of tissues. Tissues can be classified into four major types are epithelial, connective, muscular, and nervous tissue. Tissue fluids are of two types—intracellular and extracellular. The fluid inside the cell is called intracellular fluid, while the fluid outside the cell is called extracellular fluid. Tissue fluid acts as a sort of middleman between the blood and tissues, supplying food and oxygen to the cell and removing waste products from the cell. The muscles are structures, which give the power of movements. Muscles are composed of thousands of elongated cells, called muscle fibers. Each contains a small nucleus. Bundles of muscle fibers lay side by side-like threads. There are three different types of muscle tissue; they are voluntary, involuntary, and cardiac. The nerve tissues conduct impulses all over the body. The muscles are structures, which give the body the

power of movement; almost every movement is governed by some portion of the nervous system, which acts as a medium between brain and muscle. Organs are structures composed of several types of tissues, e.g., an organ-like stomach is composed of muscular tissues, nerve tissues, and glandular epithelial tissues. Systems are groups of organs working together to perform fundamental functions of the individual. The different types of systems are skeletal, muscular, nervous, endocrine, circulatory, lymphatic, respiratory, digestive, urinary, and reproductive systems. Although some systems are functioning individually, the functions of various systems are very closely connected and are dependent on each other. For example, the mouth, esophagus, stomach, and small and large intestines are organs, which compose the digestive system.

2. Muscular System: The musculoskeletal system includes the bones, muscles, and joints. The skeleton comprises a group of bones from a supportive framework and consists of a series of bony levers capable, by virtue of the joints and muscles, to move upon one another. Muscles and bones make up for most of the body's weight. The muscles have the characteristics of elongation and contraction by which they produce movements of the different parts of the body. The skeletal muscles with the nerve endings produce chemical reactions during contraction and it results in the generation of heat. The properties of muscles are the power of contraction, the voluntary muscles contract as a result of stimuli reaching them from the nervous system, and many nerves have their endings in muscles. Muscle tissue is elastic and can be stretched by weight, when the weight is removed, the muscle returns to its normal position. The Voluntary/Striated/Skeletal is muscular tissues. The voluntary muscle is attached to the skin and it is under the control of the will. And Involuntary/Smooth/Non-striated/Visceral Muscles are found in the internal organs and structures of the body cannot be controlled by the will. The cardiac muscle is a special type of muscle found only in the heart and its movements cannot be consciously controlled.

The human skeleton contains 206 bones present in the adult. The skull consists of the cranium, face, and lower jaw. The trunk consists of the spinal column, ribs, and sternum. The limbs consist of upper and lower limbs together with shoulder and pelvic girdles. The cranial bones of the skull protect the brain and structures related to it, such as the eye, ear, and nose. The cranial bones of a newborn child are not completely joined. Bones are organs composed of connective tissues called osseous (bony) tissue with a rich supply of blood vessels and nerves. The inner core of bones is composed of hematopoietic tissue (red and yellow bone marrow, manufacturers of blood cells), while other parts are storage areas for minerals necessary for growth, such as calcium and phosphorus. This is the hardest of all the connective tissues.

The vertebral column is composed of 26 bone segments, cervical, thoracic, lumbar, sacrum, and coccyx. At birth, it is composed of five separate segments, these gradually become fused in the young child. The coccyx is the set of five bones and it is the tailbone of the spinal or vertebral column fused together. The bones of the pelvis are pelvic girdle is a hipbone, large bone supporting the trunk of the body, and joints the thigh bone and sacrum. Bones of arms and hands are humerus the upper arm bone, ulna, and radius are the lower arm bones, carpals, and metacarpals bones of the finger. There are three types of joints—fixed, immovable or synarthrosis or fibrous; slightly movable and freely movable joints or diarthrosis or synovial. Movement of joints includes—gliding movements, angular movement, the synovial membrane lies under the joint capsule and lines the synovial cavity, which is filled with a special type of lubricating fluid called synovial fluid produced by synovial membrane.

3. Cardiovascular System: The cardiovascular system plays a vital role in transporting food and oxygen to all organs, and cells of the body through the fluid called blood vessels to carry the blood and the muscular pump called the heart. In addition to this, these blood vessels are used to transport cellular waste materials such as carbon dioxide and urea to the lungs and kidneys respectively, where it is removed from the body. Thus the cardiovascular system is one of the vital systems of the human body. The cardiovascular system is the transport system, carrying oxygen, nutrition, hormones, and other substances to the tissues, and conveying carbon dioxide to the lungs and other waste products to the kidney. Arteries, arterioles, veins, venules, and capillaries, together with the heart form the cardiovascular system for the flow of blood.

Arteries are the blood vessels, which carry oxygenated blood from the heart to the various parts of the body. The microscopic structure of arteries has three layers: Tunica adventitia: Outer layer Tunica media: Middle layer Tunica intima: Inner layer. Tunica adventitia is composed of fibrous tissue, which gives protection and strength to the vessels. Tunica media is composed of smooth muscle with yellow elastic fibers, which are arranged in a circular manner. It contracts and relaxes to maintain blood pressure. Tunica intima consists of a layer of endothelial cells. Arterioles a minute arterial branch one just proximal to a capillary. Generally, the names of the arteries mostly coincide with the names of the bone, organs or cavity, etc. it passes through. Veins are the blood vessels, which carry deoxygenated blood from various parts of the body to the heart. It also possesses three layers same as that of arteries, but they are much thinner. The smooth muscle inside their walls is under the control of the autonomic nervous system. Small veins are called venules. Capillaries are only one cell thick and are just large enough to allow red blood cells to pass through. It is in the capillaries that the nutrient/gas exchange (diffusion) takes place. They act as a very important link in the circulatory system because it is the

capillaries that serve all the tissues in the body, by absorbing the energy (glucose) from the blood of the arteries and transporting the waste materials through the venules to the kidneys.

The heart is a conical-shaped hollow muscular organ situated in the mediastinum, in between the two lungs in the thoracic cavity. It is slightly tilted towards the left side. The heart is made of a special type of muscle called the cardiac muscle, composed of striated muscle fibers. The heart has a base above and an apex below and its size will be almost equal to the owner's fist. The heart has two sides, the right, and the left. The right side of the heart receives the deoxygenated blood and pumps it into the lungs for purification and the left side of the heart receives the oxygenated blood from the lung and pumps it into the various parts of the body through the aorta and arteries. Each side of the heart is further divided into two chambers, which communicate by means of valves. The upper chambers are the thin-walled atria or atrium, or auricle. The lower chambers are the thick-walled ventricles. The first phase is called diastole (relaxation) and the second is systole (contraction). During the diastolic phase, the ventricles relax and deoxygenated blood flows into the right atrium of the heart through the vena cava, and the oxygenated blood from the lungs pours into the left atrium through pulmonary veins. The tricuspid and mitral valves are open in the diastolic phase and the blood passes from the right and left atria into the ventricles. The next phase is the systolic phase. During this phase, the walls of the ventricle contract, and the semilunar valves open, and the blood is pumped into the pulmonary artery and aorta from the right and left ventricles respectively.

The circulation of blood through the vessels from the heart to the lungs and then back to the heart again is known as pulmonary circulation. The circulation of blood from the body organs (except the lungs) to the heart and back again is called systemic circulation. During the contraction of the ventricle, the deoxygenated blood is pumped into the pulmonary artery through the pulmonary (semilunar) valve from the right ventricle. This blood when reaches the capillaries of the lung, the exchange of carbon dioxide and oxygen occurs, and the blood is purified. The newly purified blood is brought back to the heart through the pulmonary vein to the left atrium. This is called pulmonary circulation.

4. Blood and Lymphatic and immune System: Blood and lymph are the specialized liquid tissues of the body; each is composed of cells that are suspended in a liquid medium. Both these tissues defend the body against infection and help in the transportation of cells throughout the entire body. The blood is red and viscid, the alkaline in reaction and it is divided into a fluid part and a solid part. Plasma is the liquid portion of the blood in which the

corpuscles are suspended. It is composed of about 92% water and solid materials, which are mainly proteins with lesser amounts of sugar, wastes, and salts, hormones, and other substances. The four major proteins present in the plasma are albumin, globulin, fibrinogen, and prothrombin.

Erythrocytes are formed in the red bone marrow of the spongy bones that are at the ends of the long bones. During their development, red blood cells (RBCs) develop a special compound called hemoglobin, which is rich in iron-containing pigment that gives the erythrocyte its red color. The average life of the erythrocytes is about 120 days in the circulating bloodstream. After this time, the cells of the spleen, liver, and bone marrow destroy the worn-out erythrocytes. These cells called macrophages set the hemoglobin free from the erythrocyte and break the hemoglobin down into its heme and globin portions. The heme decomposes into bilirubin and iron. Iron forms new red cells or is stored in the spleen, liver, and bone marrow for later use. The leukocytes play a vital role in the body's immune system by protecting it against the invasion by bacteria and other foreign substances. White blood cells (WBCs) can be classified into two categories, granulocytes (with granules in the cytoplasm) and agranulocytes (without granules). The blood clotting or coagulation, process involves many different chemical reactions such as prothrombin activator (thromboplastin) is released when there is a tissue break or at the site of injury or when platelets rupture. The thromboplastin acts on prothrombin and converts prothrombin into thrombin. The thrombin acting on the fibrinogen converts it into fibrin, which is insoluble, which trap red blood cells to form the clot. The period of time, taken by fibrin to form the blood clot is known as the coagulation time. Blood is divided into four groups namely; A, B, AB, and O based on the presence or absence of blood antigens in the RBCs. Besides grouping by classifying A and B antigens, there are many other antigens located on the surface of the RBC.

The lymphatic system consists of lymph tissue fluid, which is found all over the body through a network of transporting structures called lymph vessels, lymph nodes, and the spleen, thymus, and tonsils. The primary functions of the lymphatic system are to drain fluid from tissue spaces and return it to the blood transport materials to body cells, carrying waste products from body tissues back to the bloodstream, to convey lipids or fats, away from the digestive organs, and to control infection by providing lymphocytes and monocytes, which are used to defend against infections caused by microorganisms. Lymph originates from the blood plasma. As blood circulates through the capillaries, some of the plasma steps out of these thin-walled vessels. This fluid, now called interstitial or tissue fluid resembles plasma, except it contains less protein. When the fluid enters the capillaries, it is called lymph. Lymph capillaries are thin-walled tubes, the same as blood capillaries. The organs composed of

lymphatic tissue are the spleen, thymus, and tonsils. The spleen is the biggest lymphatic organ and its main functions are the destruction of old RBC, by which bilirubin is formed and added to the bloodstream. Filtration of microorganisms and other foreign materials from the blood, production of antibodies and immunity, chiefly by leukocytes, and storage of blood, especially RBC; Blood is released by the spleen when the body needs it. The production of blood cells such as lymphocytes and monocytes stimulates the production of blood cells from the bone marrow. The thymus produces special lymphocytes called T cells, which migrate to the site of antigens and to destroy the antigen by the process of phagocytosis. Other types of lymphocytes are called β cells, these cells are produced in the bone marrow and they destroy antigen by producing antibodies. Three sets of tonsils, the palatine, pharyngeal and lingual tonsils, contain T and B lymphocytes, which protect against infection at the entrance of the digestive and respiratory tracts. The study of the body's defense mechanism against foreign organisms is called immunology. Immunity is a capacity to resist all types of organisms and toxins. Natural immunity is one's own ability to fight against the disease. Acquired immunity is the protection against, invasive organisms to which the body does not have natural immunity. Vaccination is a process of injecting antibodies against foreign organisms and then remaining in the body to protect against subsequent infection. Many diseases can be prevented by artificial immunization.

5. Nervous System: The nervous system communicates between the various parts of the body. More than 10 billion nerve cells are operating all over the body. Microscopic nerve cells collected into bundles are called nerves, which carry the electrical message all over the body. External stimuli, as well as internal chemicals such as acetylcholine, activate of the cell membranes of nerve cells so as to release stored electrical energy within the cells. This energy when released and passed through the length of the nerve cells is called nerve impulses. Thus, the external receptor such as sense organs (eye, ear, tongue, skin, nose) as well as internal receptors in muscles and blood vessels receive and transmit these impulses to the complex network of the nerve cells in the brain and the spinal cord. Within the central part of the nervous system impulses are recognized, interpreted, and finally relayed to other nerve cells, which extend to all parts of the body, such as muscles, glands, and internal organs.

The nervous system is made up of innumerable nerve cells called neurons. A neuron is an individual nerve cell, a microscopic structure through which impulses are passed along the path of the nerve cell in a definite manner and direction. The nerve cells collectively form the gray matter of the brain and the nerve fibers are grouped together to form the white matter. Nerves are classified into two types, namely sensory or afferent nerves and motor or efferent nerves. The nervous system may be divided into two main portions namely, the CNS

consisting of the brain and spinal cord. The peripheral nervous system or autonomic nervous system consists of spinal nerves between the CNS, muscles, and various organs. The brain is the major part of the CNS is composed of billions of neurons and nerve endings. The organ is also the center of memory, emotion, thought, judgment, reasoning, and consciousness.

The brain is divided into three portions namely, forebrain (Cerebrum), midbrain (Pons Varolii and medulla oblongata), and hindbrain (Cerebellum). The main function of the cerebrum is memory, association, judgment, discrimination, and thought. The main function of the cerebellum is to maintain the balance, posture, and coordination of voluntary movements and muscle tone. The pons is the part of the brain, which literally means “Bridge”. It lies between the midbrain and medulla oblongata. The medulla oblongata is located at the base of the brain, which connects the spinal cord, and the brain. The thalamus is the large mass of gray matter, which is situated below the cerebrum thalamus, is predominantly a sensory relay station, with incoming fibers from the spinal cord and brainstem and onwards to the cerebral cortex. The spinal cord is the major part of the CNS, which lies in the vertebral canal. It extends from the medulla oblongata to the second lumbar vertebra within the vertebral column. It ends as the cauda equina (horsetail), a fan of nerve fibers found below the second lumbar vertebra of the spinal column. The brain is enclosed within the skull and the spinal cord is enclosed within the vertebral column. In addition, both the brain and the spinal cord receive limited protection from a set of three coverings called meninges. The outermost coat, the dura mater is tough and fibrous. Immediately beneath the dura mater is the cavity called subdural space. The next layer of meninges is the arachnoid mater. The space beneath the arachnoid mater is called subarachnoid space, which is filled with cerebrospinal fluid, which provides additional protection for the brain and spinal cord by acting as shock absorbers. The innermost layer, the pia mater contains blood vessels and lymphatics, which provides nourishment for the underlying tissues.

The PNS consists of cranial and spinal nerves. Sensory or afferent nerves carry impulses from the tissues to the brain for interpretation and give rise to sensations such as cold, heat, pain, etc. Motor or efferent nerves carry impulses away from the brain and spinal cord, to the tissues. Nerves composed of both sensory and motor fibers are called mixed nerves. The somatic nerves are under the direct control of the individual. It is under conscious control and therefore it is voluntary, e.g. voluntary activity includes walking, talking, etc. The autonomic nerves comprise the sympathetic and parasympathetic nerves, producing actions that balance one another. The sympathetic and parasympathetic nerves function quite opposite to each other. The sympathetic nerves produce vasoconstriction, increase heart rate, elevate blood pressure and

depress gastrointestinal activity. While parasympathetic nerves decrease blood pressure, dilate the pupil, slower heart rate, etc.

6. Digestive System: The digestive system is also called alimentary or gastrointestinal through which the energy is supplied externally as food is converted into required chemicals for the nutrition of the cells, tissues. There are six essential nutrients proteins, vitamins, carbohydrates, mineral salts, fats, and water. When food is ingested, the digestive system plays a vital role in the conversion process of a complex food substance such as proteins to simple amino acids, complex sugars to simple sugars (glucose), and large fat molecules are broken down to fatty acids and glycerol, which can be absorbed by the cells as nutrients. Finally, the unwanted materials are eliminated through the anus.

The primary functions of the digestive system can be explained simply in three stages: digestion, absorption, and elimination: The third part function of the digestive system is to eliminate, the solid waste materials, which are unable to be absorbed into the bloodstream. This process is called defecation. The salivary glands are exocrine glands producing saliva, which contains digestive enzymes, which help in the digestion of carbohydrates. The pharynx is a muscular membrane divided into three major sections such as nasopharynx, oropharynx, and laryngopharynx. The main function of the esophagus is to move the food from the pharynx cavity to the stomach by the process called peristalsis. The stomach, small intestine, and large intestine together form the GI tract. The stomach is a muscular organ and its openings are governed by the sphincters, the cardiac sphincter between the esophagus and fundus (the upper part of the stomach) preventing the backflow of the food into the esophagus and the pyloric sphincter between the antrum (the end part of the stomach) and the small intestine. The interior wall of the stomach is composed of mucous membrane and contains the glands that secrete hydrochloric acid (HCl) and gastric juices.

The small intestine has three parts: Duodenum, jejunum, and Ileum. The functions of the small intestine are completion of digestion of food and to absorb the essential nutrients (end products) of digestion. The secretion of the acid chyme in the duodenum distends the intestinal wall and causes the mucosa to secrete mucus and intestinal juice, which contain the enzyme enterokinase. The large intestine is a continuation of the gastrointestinal tract and is attached to the ileum of the small intestine and ends at the sigmoid colon. Its main function is to absorb water from the remaining indigestible food matter and transmit the useless waste material from the body. The appendix is the only organ, which has no anatomy. Colon is about 5 ft long and has three divisions 1. Ascending colon: Extending from the cecum to the lower border of the liver. 2. Transverse colon and 3. Descending colon. The important accessory organs of the digestive system are the Liver, Pancreas, and gallbladder. The liver is the

largest gland in the body and its vital functions are: produces bile, which is used in the small intestine to break and absorb fats', removes glucose (sugar) from blood, which it synthesizes and stores as glycogen stores, vitamins such as B12, A, D, E and K, removal of poisons from the blood, destroys old erythrocytes and releases bilirubin and produces various blood proteins, such as prothrombin and fibrinogen, which help in the clotting of blood. Bile is the external secretion of the liver and is produced in a diluted form, which is then concentrated by the gallbladder to a greenish viscous fluid. It is composed of water, salts, bile pigments, and mucus. Bile salts play an important role in assisting the digestive action of pancreatic enzymes and in aiding the absorption of fat and fat-soluble vitamins from the small intestine.

The gallbladder is a small pear-shaped organ situated below (underneath) the liver and acts as a reservoir for the bile from the liver and to concentrate it. The hepatic duct connects the liver and gallbladder through which the bile is passed and stored in the gallbladder. The gallbladder is connected to the duodenum by a cystic duct with which the hepatic duct becomes the common bile duct. The pancreas acts as both endocrine and exocrine gland. In the digestive system, it provides digestive juices that pass through the pancreatic duct, thus it becomes an exocrine gland and also releases hormones directly into the bloodstream and functions as an endocrine or ductless gland. Metabolism is a chemical reaction, which occurs in the whole body. It is divided into two major processes, i.e. anabolism and catabolism. Anabolism is the building or synthesis of new compounds and this process is energy-consuming. Catabolism is the breaking down of large molecules to smaller units to release energy and heat. In healthy adults, there will be a balance between anabolism and catabolism, which is called an energy balance.

7. Endocrine System: The endocrine system is composed of endocrine glands that release hormones, a chemical substance, which regulate the basic metabolic activities of the body; for example, the growth hormone regulates the growth of bones. Glands, which secrete their hormones directly into the bloodstream rather than into ducts leading to the exterior of the body are called endocrine glands, in short, they are ductless glands. The glands, which transport hormones through ducts, are called exocrine glands, e.g. lacrimal glands, sweat glands, and mammary glands. In structure, they are either steroids or proteins. The pituitary gland, liver, and kidneys excrete most of the hormones. Different endocrine glands are the Thyroid gland, Parathyroid, Adrenal gland (1 pair), Pancreas, Pituitary gland, Ovaries in females (1 pair), tests in males (1 pair), Pineal gland, and Thymus gland. The thyroid gland is the largest gland of the endocrine system. The major function of the thyroid gland is to produce, store and release two hormones—thyroxine (T4) and triiodothyronine (T3). The condition of hyposecretion of the thyroid is called hypothyroidism. In infants,

the condition of hypothyroidism is called Cretinism. When hypothyroidism is developed in adults it is known as Myxedema.

The condition of hypersecretion of the thyroid is called hyperthyroidism. The most common disorders of this condition are Graves' disease and toxic goiter. In severe conditions, the eye may protrude, because of edematous swelling in the tissue behind the eye called exophthalmos. The parathyroid glands are four small oval bodies, located on the posterior surface (behind) of the thyroid gland. It secretes only one hormone called parathyroid hormone (PTH). This hormone is also known as parathormone. The hyposecretion of the PTH hormone is called hypoparathyroidism which is characterized by—calcium being unable to enter into the bloodstream from bones, which lead to nerve and muscle weakness, spasm of muscles, which is called tetany. The hypersecretion of the PTH is called hyperparathyroidism. The adrenal glands are two small glands situated on top of each kidney. It is also called suprarenal glands. Each gland consists of two parts, an outer portion called the adrenal cortex and an inner portion called the adrenal medulla. These two parts of each adrenal gland secrete different endocrine hormones. The adrenal cortex secretes hormones called steroids and the medulla secretes hormones called catecholamine. The adrenal cortex secretes three types of steroid hormones; they are Mineralocorticoids, Glucocorticoids, and Gonadocorticoids.

The adrenal medulla secretes two types of hormones epinephrine and norepinephrine (adrenaline and noradrenaline), which are closely-related hormones. Addison's disease is characterized by the hyposecretion of cortical hormones of the adrenal cortex, which results when the adrenal cortex is destroyed by the atrophy of adrenals. Cushing's disease: hyperfunctioning of the adrenal cortex with increased glucocorticoid secretion. It is characterized by moon-like fullness of the face, hypertension, high blood sugar, excess deposition of fat at the back of the thoracic region, excess hair growth in unusual places (hirsutism), especially in females. The pancreas functions as both endocrine and exocrine gland. The specialized cells in the pancreas, which produce hormones, are called islets of Langerhans. It is the most common pancreatic disorder. It is recognized to exist in two forms the insulin-dependent form caused by failure of the B cells to produce insulin and the non-insulin-dependent form, caused by insufficient insulin production to facilitate the oxidation of the glucose.

Hypersecretion of insulin condition is known as hyperinsulinism. It may be caused by a tumor in the pancreas. By excessive secretion of the insulin, excess glucose is drawn out of the bloodstream, resulting in hypoglycemia. The pituitary gland is a small, pea-sized gland located at the base of the brain. It is also known master gland as it regulates many body activities and stimulates

other glands to secrete their own specific hormones. The ovaries are two small glands located in the lower abdominal region of the female. The ovaries produce the female sex cells called an ovum, as well as hormones, which are responsible for female sexual characteristics and regulation of the menstrual cycle. The hormones secreted by the ovaries are estrogen and progesterone. Estrogen is responsible for the development and maintenance of secondary sex characteristics. Progesterone is responsible for the preparation and maintenance of the uterus during pregnancy. The testes are two small, ovoid glands suspended from the inguinal region of the male by the spermatic cord and surrounded by the scrotal sac. The testes produce male sex cells spermatozoa, as well as the male hormone called testosterone. It regulates the growth and maintenance of secondary sexual characteristics in the male.

8. Respiratory System: The essential features of the respiratory system are the exchange of oxygen from the atmosphere to the tissues and carbon dioxide from the tissue to the outer air. There are two phases in respiration—external respiration and internal respiration. External respiration is an exchange of oxygen and carbon dioxide between the lungs and capillaries. Internal respiration is an exchange of gas (oxygen and carbon dioxide) between individual body cells and tiny capillaries. Air enters through the nose and passes through nasal cavities (turbinates), which are lined with mucous membranes and fine hairs, which help in filtering the dust as well as to warm and moisten the air. The nose is subdivided by a septum into two cavities. These are lined above by olfactory mucosa and below by the respiratory mucosa and skin. The nose also acts as a sense organ to smell. Para-nasal sinuses are hollow, air-containing cavities within the cranium, which helps to produce the tonal quality of sound. The pharynx is a muscular tube that is common for both respiratory and digestive systems. There are three sections: nasopharynx, oropharynx and laryngopharynx. The collection of lymphatic tissue known as adenoids or pharyngeal tonsil is located in the nasopharynx. Another type of lymphatic tissue known as tonsil is located in the oropharynx, which helps to filter and invade the bacteria present in the air and food. The larynx is the prominent part of the windpipe and it is made up of sections of cartilage interspersed by membrane and ligaments. The largest cartilage is the thyroid cartilage (Adam's apple) attached to the top of which is the epiglottis. The vocal cords are situated in the larynx and are responsible for sound production (speech) or promotion.

Epiglottis a leaf, like structure present above the larynx and acts similar to a lid for the larynx, by closing and not allowing the food particles into the larynx, while eating. The end of the trachea is divided into two small pipes called bronchi (left and right). The left and right bronchi pass to the corresponding sides of the lungs. The bronchi are divided into small branches called bronchioles, which end with air sacs called alveoli, which resemble a balloon-

like structure. The capillary structure (bed) lies close to the alveoli. The internal respiration (exchange of oxygen and carbon dioxide) is carried out between the alveoli and capillaries. The lungs are two cone-shaped organs, situated in the right and left sides of the thoracic cavity.. The base of the lungs lies on the diaphragm. Lungs are covered by a pleural cavity containing pleural fluid, which helps to glide smoothly over the pleura during respiration, which helps in breathing. The right lung has three lobes and the left has two lobes. The lobes are further divided into lobules, which are bound together by loose connective tissue. Each lobule has bronchioles, which are divided and subdivided becoming finer until they end in small-dilated air sacs or alveoli. The overall lung tissue is elastic and spongy in order to carry out its respiratory functions.

The diaphragm is a large muscular partition, which lies between the chest cavity and the abdominal cavity. By contracting and relaxing the diaphragm produces the needed pressure differential for respiration inhaling oxygen into the lungs is called inspiration. During inspiration the diaphragm is forced down, the sternum and ribs move forward and outward respectively, thus increasing the space of the thoracic cavity and the lungs enlarge. Being elastic, the lungs expand to fill up with oxygen 20% and carbon dioxide 0.04% and nitrogen 79%, and water vapor depending on the degree of humidity in the increased space. In the alveoli, the basic part of the lung, the oxygen from the inspired air is able to pass through the thin alveolar-capillary membrane and is taken up by the hemoglobin (Hb) in the red cells of the blood. The well-oxygenated blood is circulated through the arteries and arterioles of the body. When it reaches the capillaries it moves very slowly, the tissue cells take oxygen from the Hb and exchange it with carbon dioxide, the waste product of metabolism (carbon dioxide) is returned through the venous system to the heart and back to the lungs. Normal rhythmic respiration continues even when a person is unconscious or asleep. This rhythm is maintained by a part of the brain referred to as the respiratory center, in the medulla oblongata. One part of the respiratory center that facilitates inspiration is called the inspiratory center. The other part, which facilitates expiration, is called the expiratory center. The alternating activity of the inspiratory and expiratory centers brings about alternate inspiration and expiration. This alternate activity of the two centers is brought about by a third part of the respiratory center known as the pneumatic center and reflexes arising from the lung because of the stretching of the lungs during inspiration.

9. Sense Organs: The special senses of the body include the sense of sight, taste, hearing, smell, and equilibrium. These senses allow us to detect changes in our environment, and each of them has structurally complex receptors organs. The sense organs are the eye, ear, tongue, nose, and skin. The muscles can move the eyes freely in all directions. The optic nerve joins the eyeball through

the back of the eye, which transmits the reflexes to the brain. Light rays pass through a small opening and are focused by a lens upon a photoreceptive surface, the retina. Then the image is transmitted from the retina to the brain through the optic nerves. They are 1. Sclera: Outermost layer, which is a tough fibrous tissue, acts as a protective shield for the eye and maintains the shape of the eyeball. It also contains the cornea, which is transparent. 2. Choroid: The middle layer that provides the blood supply for the entire eye. It also contains the ciliary body and iris. 3. Retina: The innermost layer composed of nerve endings that are responsible for the reception and transmission of light impulses. Iris is a colored, contractile membrane, which functions as a sphincter. The cornea allows the light to enter the eye. It is also called the window of the eye. The pupil is the perforated center for the iris, which regulates the entering of light by varying its size.

The ear is the sense organ for hearing and for maintaining the equilibrium of the body. It is divided into three sections namely, external ear, middle ear, and inner ear. Pinna is the external structure attached to the side of the head. It has a deep shell-like cavity to collect the sound waves traveling through the air. External auditory meatus is such as a tubule (canal) 2.5 cm long. It leads from the pinna to the tympanic membrane or eardrum (middle ear). The canal is lined with glands that produce a waxy secretion called cerumen. These waxy substances prevent dust and foreign particles from entering the ear. The tympanic membrane is a thin membrane covering the end of the external auditory canal. Sound waves that enter the ear canal, strike against the tympanum. The eustachian tube is the canal, which connects the middle ear to the nasopharynx. Its functions are to regulate the pressure in the middle ear to that of the environment and clear the fluid secretion from the middle ear to the nasopharynx.

The skin and its accessory organs (hairs, nails, and glands) are known as the integumentary system of the body. The skin consists of two layers, epidermis and dermis (corium). The skin has specialized tissues, contains glands, which secrete several types of fluids, nerves that carry impulses and regulate the body temperature. The important functions of the skin are: provides protection against injuries and invasion of the bacteria regulates the body temperature and the prevention of dehydration and works as a sensory receptor, and is responsible for the synthesis of vitamin D. Epidermis is the outermost cellular membrane layer of the skin. It has no blood supply. The hair has three parts namely, hair shaft, hair root, and hair follicle. The hair follicle is a collection of capillaries enclosed in a covering called the papilla. Deep-lying cells in the hair root produce horny cells, which move upward through the follicles for the formation of the hair shaft. Baldness (alopecia) is evident when the hairs of the scalp are not replaced. Men rather than women are more susceptible to this

condition, which is because of hereditary factors. The presence of the melanin pigment makes the hair look black. Hair turns gray when the melanocytes stop producing melanin. There are two types of glands present under the skin, they are sebaceous and sweat glands. The sebaceous gland produces an oily secretion called sebum, while the sweat glands produce water. Nails are solid plates present at the dorsal end of fingers, which protect fingers and toes. The nail body is pink because of the underlying vascular tissue. The half-moon-shaped white area near the root of the nail bed is the lunula. The main function of the nails is to protect the tips of the fingers and toes from bruises and other kinds of injuries.

The tongue is a highly mobile organ composed of voluntary muscles. It is essential for speech, taste (bitter, sweet, sour, and salt), mastication, and swallowing. The root of the tongue is attached to the hyoid bone in the neck. On the dorsum of the tongue are numerous minute elevations of the mucous membrane called papillae. Embedded in the papillae are the taste buds, which are situated more densely at the tip, sides and base of the tongue (up to 9,000 tiny papillae). The nose is the organ for the smell. Sensory nerve ends of the olfactory nerves are situated in the olfactory mucosa which forms the upper one-third of the nasal mucosa. Olfactory nerves transmit these signals to olfactory bulbs then through olfactory tracts to the smell center in the temporal lobes of the cerebral cortex. Nose smell the substances whose molecules are breathed into the roof of each nasal cavity and dissolved on a patch of olfactory membrane along with 100 million smell receptor cells equipped with tiny sensitive hair.

10. Excretory System: The urinary system is also known as the excretory system, which excretes the waste (end) products of metabolism that tend to change the normal internal and external environment of the cell. The major function of the urinary system is to remove urea from the bloodstream so that it does not accumulate in the body and become toxic. The urinary system also maintains the proper balance of water, salts, and acids in the body fluids, salts such as sodium, potassium, and some acids known as excretory system electrolytes. The urinary system is composed of 2 kidneys, 2 ureters, 1 urinary bladder, and 1 urethra.

The kidney has three parts namely; the cortex or outer part, the medulla or inner part, and the hilum depression at the medial part of the kidney. The cortex (outer) part of the kidney contains tiny glomeruli, together with the renal tubules, which lie partly in the medulla also. There is about 1 million nephrons. Each nephron has a renal corpuscle and a renal tubule. The renal corpuscle is composed of a tuft of capillaries, the glomerulus, and a modified funnel-shaped end of the renal tubule called Bowman's capsule, which encases the glomerulus.

An afferent arteriole conveys blood to the glomerulus and an efferent arteriole carries the blood away from the glomerulus. The renal tubule has four sections, proximal convoluted tubule, Henle's loop, distal convoluted tubule, and collecting tubule, where the excretion process for removing the waste products from the blood takes place. The waste material is carried out to the hollow chamber, the renal pelvis that is situated in the hilum. The adrenal gland lies on top of each kidney. The concave central part of the kidney is called the hilum, where the renal artery enters the kidney and the renal vein leaves the kidney. The pelvis is the collection point of urine as it is formed. The main function of the urinary system is to filter and remove waste products from the blood.

There are two ureters convey urine in peristaltic waves from the kidney to the urinary bladder. The urinary bladder acts as a temporary reservoir for the urine. The neck of the bladder has a sphincter muscle to stop the backflow of the urine from the bladder. The trigone is a triangular space at the base of the bladder where the ureters enter and the urethra leads out. Urethra is a common passage for urine and seminal fluid in the male, while in the female it is the passage for urine only. The male urethra has three parts, prostatic part is surrounded by the prostate gland; the ejaculatory ducts and the ducts of the prostate gland open into it, the membranous part and penile part is surrounded by the corpus spongiosum of the penis.

The two endocrine glands are located above each kidney. Blood enters each kidney through the renal artery. These arteries, divide into small arteries called arterioles and these are located throughout the cortex of the kidney. The blood from the arteriole leads to the tiny smaller blood vessels called capillaries, which are collectively called glomeruli, and here the process of formation of urine begins. The three steps involved in this process are filtration, re-absorption and secretion. The filtration process starts at the glomeruli, where the water, salts, sugar and nitrogenous waste such as urea, creatinine, and uric acid are filtered out through the thin walls of the glomeruli. These filtered products are collected by the Bowman's capsule, a cup-like structure holding the glomeruli and the fluid formed is called filtrate. During filtration, some of the essential chemicals for healthy living such as water, sugar, salts are also filtered out with the wastes. When this filtrate passes through the four sections of the renal tubule, certain amount of these filtered products such as water, the peritubular capillaries, thus re-entering the circulating blood, absorb some of the electrolytes and amino acids. In the convoluted tubules much of the water, salts, etc. are returned to the blood supply while the remainder is passed into the collecting tubules, and then into the kidney pelvis via the pyramids and calyces as urine. The final stage of urine production occurs when specialized cells of the collecting tubules secrete ammonia, uric acid and other substances directly into the lumen of the tubule. Here thousands of renal tubule deposit urine into the

central renal pelvis, a space that fills most of the medulla of the kidney. Blood leaves the kidney via the renal vein. The urine is then passed via the ureters into the urinary bladder, where it is temporarily stored. The exit area of the bladder to the urethra is closed by sphincters, which do not permit urine to leave the bladder. As the bladder fills up, however, there is a point at which muscular contractions of the walls of the bladder begin and pressure is placed on the base of the urethra, which causes the desire to urinate. This process of muscular contractions, so as to pass urine is called micturition. Blood flow should be maintained constantly through the kidneys. When the flow of blood is reduced, the kidney, which ultimately increases the blood pressure, releases a substance called renin and blood flow in the kidneys is restored to normal.

11. Reproductive System: Reproduction is the union of the female sex cell (ovum) and male sex cell (sperm), which contains the genetic material called chromosomes. Each sex cell (male and female) has exactly 23 chromosomes. Male has 21 chromosomes and 2 autosomes (X and Y), which decides the sex of the newborn, whereas the female has 23 chromosomes, when the ovum and sperm cell unite, the cell produced receives half of its genetic material complement of hereditary material. These sex cells are produced in special organs called gonads in the male and female. The female gonads are the ovaries and male gonads are the testes. The male reproductive system performs two important functions, viz. production of the male sex cells (sperm), storage and transportation of the sperm. The organs of the male reproductive system are the Testes, Scrotum, Seminiferous tubules, Epididymis, Vas–deferens, Seminal vesicles, Ejaculatory duct, Prostate gland, Penis, and Urethra. The primary organ of the male reproductive system is the testis. The male gonad consists of pair of testes. The testes produce an important male hormone called testosterone, which is responsible for secondary sexual characteristics such as beard, pubic hair, voice deepening, proper development of male gonads, and accessory organs, which secretes fluid to insure the lubrication and viability of the sperm. The scrotum is a muscular sac that lies between the thighs, and maintains the testes at lower temperatures than that of the body, facilitating adequate maturation and development of sperm, which requires quite a low temperature. The female reproductive system can be divided into two; internal and external genitalia. The internal genitalia consists (Ovaries, Fallopian tubes, Uterus, and Vagina) and external genitalia (Vulva; Labia majora, Labia minora, Hymen). Ovaries are the bean-shaped glands located in the pelvic cavity on either side of the uterus to which they are attached by the ovarian ligament. They produce the ovum, which is the female reproductive cell, and hormones such as progesterone and estrogen. These hormones are responsible for the menstrual cycle and prepare the uterus for pregnancy and play a vital role in the development of secondary sexual characteristics. The fallopian tubes are the muscular tube-like structure measuring 14 cm, which extends from the ovaries

to either side of the uterus. It transports the ovum by a wavelike movement (peristalsis) from the ovary to the uterus. It takes an ovum about 5 days to pass through the fallopian tube. It also acts as a passage for the ovum to pass from the uterus towards the ovaries. The uterus is a muscular pear-shaped organ. It lies in the pelvic cavity behind the urinary bladder and in front of the rectum. It is supported in position by ligaments and covered by three layers of tissue.

The female reproductive system consists of organs, which produce ova and provide space for the growth of an embryo. The female reproductive organs also secrete hormones such as estrogen and progesterone that contribute to the secondary female sexual characteristics such as body hair, breast development, structural changes in bones and fat. The period when the secondary female sexual characteristics develop is called puberty. Ova are produced during the onset of the puberty period. When the ova are not fertilized the hormonal changes result in the shedding of the uterine lining and bleeding. This is called menstruation. When ova are fertilized in the uterus that condition is called pregnancy, the normal gestation period is approximately 9 calendar months. The cessation of fertility and diminishing of hormone production is called menopause. The period between puberty and menopause is called the reproductive period or childbearing age; it is normally between the ages of 15–44 years of a woman.

Pregnancy is the condition in which a zygote (the union of male gonad and female ovum) develops in the uterus. The placenta, which is the organ of communication between the mother and embryo, now forms within the uterine wall. The placenta is filled with a fluid called amniotic fluid, which breaks during the onset of labor. The hormone oxytocin instigates the vigorous contraction of the uterus to affect the delivery of the fetus. The normal gestation period is about 40 weeks. Immediately after delivery, a hormone called prolactin promotes the milk secretion to feed the newborn. The product of conception up to the 3rd month is called an embryo and later it is referred as a fetus. During pregnancy, there will be a change in the uterus, vagina, and breasts. The labor and birth can be classified into three stages: Dilation stage (uterus contracts and the complete dilation of the cervix occur), Expulsion stage (starts from complete dilation of the cervix to the birth of the baby), and Placental stage (uterine contractions and discharge the placenta from the uterus).

12. Oncology: Oncology is the study of tumors. A tumor is an abnormal growth of cells that serve no reasonable purpose but create a concern. Tumors are of two types—benign and malignant. A benign tumor is not a malignant tumor, it does not invade nearby tissue or spread to other parts of the body the way

cancer can. But benign tumors can be serious if they press in vital structures e.g., blood vessels, or nerves. The cause of the benign tumor is unknown but the growth of benign tumor might be linked to environmental toxins, such as exposure to radiation, genetics, diet, stress, local trauma or injury, inflammation, or infection. Common types of benign tumors are many, which are arising from different structures in the body. Some of the most common types of benign tumors—Adenomas are benign tumors starting epithelial tissues of a gland or gland-like structure. A common type of adenoma is a polyp in the colon. Adenomas might also grow in the liver or the adrenal, pituitary, or thyroid glands. Fibromas (or fibroids) are tissue or connective tissue that can grow in any organ. Fibroids commonly grow in the uterus, although not cancerous, a uterine fibroid can lead to heavy vaginal bleeding, bladder problem or pelvic pain or pressure. Some other examples of tumors are Hemangiomas, lipomas, meningiomas, myomas, and neuromas. Malignant tumors are leukemia of various types. The “term malignant neoplasm means the tumor is cancerous and they can vary in their aggressiveness, so it is difficult to predict how rapidly they will grow.

Malignant tumors or neoplasms accumulate as growth, which penetrates, compresses, and ultimately destroys the surrounding normal tissue. The malignant cells from the primary tumor site find their way into lymph channels or blood vessels and are carried to remote body structures by which secondary malignant neoplasms develop. This is called metastasis. They are composed of the same type of cells as the tissue in which they are growing. When they grow bigger in size, then they harm the place by exerting pressure on surrounding structures. In general, benign tumors are not life-threatening once they are removed, they usually do not reoccur. Carcinomas, the largest group, are solid tumors, which are derived from epithelial tissue. Epithelial tissue is found on external and internal body surfaces, including skin, glands, digestive, urinary, and reproductive organs. Almost all malignant neoplasms are carcinomas. Sarcomas are rare types of cancer when compared to carcinomas and are derived from supportive and connective tissue, such as bone, fat, muscle, cartilage, bone marrow, and lymphatic tissue, or from blood cells. Sarcomas account for approximately 10% of all malignant neoplasms. Mixed tissue tumors are derived from tissue, which is capable of differentiating into epithelial as well as connective tissue. The tumors are composed of several different types of cells. Mixed tissue tumors can be found in kidneys, ovaries, and testes.

Staging is an attempt to define the extent of cancer by classifying it into three categories: T, N, and M. T represents the primary tumor site or place of origin; N represents local or original node involvement, and M indicates whether

metastasis is there or not. When the primary site contains classifications of T1, T2, T3, or T4 the higher number indicates progressive increases in tumor size and involvement. Similarly, N0, N1, N2, N3, represent progressively advancing nodular involvement. Finally, M0 or M+ defines the absence or presence of metastasis, respectively. Grading is concerned with the microscopic appearance of the tumor cells, in other words, the degree of anaplasia. Generally, four grades are employed, which are numbered from 1 through 4. Neoplasms that are composed of cells that closely resemble the tissue from which they arise are given a grade 1, tumors have a high survival rate, while patients with grades 2, 3, and 4 tumors, have a poorer survival rate. At the other extreme is grade 4, in which there is a great deal of anaplasia within the tumor. Such tumors are more serious and the prognosis is very poor. Grades 2 and 3 are intermediate grades between these two extremes.

Cancer is treated by three major approaches namely, surgery, radiation therapy, and chemotherapy. The surgery is performed when the tumor is localized and gets an effective means of cure. Some common cancers in which surgery may be curative are those of stomach, large bowel, breasts, and endometrium, especially the accessory organs of the system. The goal of radiation therapy is to deliver a maximal dose of ionizing radiation to the tumor tissue and a minimal dose to the surrounding normal tissue. Chemotherapy is the treatment of cancer using drugs. It is probably the most important factor responsible for long-term survival in several types of cancer. Chemotherapy may be used alone or in combination with surgery and radiation. Neuroscientists often use neuroimaging tools, which can help them to observe which areas of the brain are active during a particular task

13. Psychiatry: Psychiatry is the branch of medicine focused on the diagnosis, treatment and prevention of mental, emotional and behavioral disorders. The psychiatric problems can be sudden, such as a panic attack, frightening hallucinations, thoughts of suicide, or hearing “voices.” Or they may be more long-term, such as feelings of sadness, hopelessness, or anxiousness that never seem to lift or problems functioning, causing everyday life to feel distorted or out of control.

Psychotherapy is the treatment of emotional problems by psychological techniques. There are many different techniques involved in psychotherapy. For example, behavior therapy, which means conditioning the primary feelings of the patients; group therapy means patients are educated through group discussions in front of invited audience. The sex therapy mainly deals with solving psychosexual disorders, such as frigidity, impotence and premature ejaculation. Family therapy is a long-term form of psychotherapy, to resolve internal conflicts, by allowing the patients to bring their unconscious emotions, such as free association, and transference (recollecting the early past incidence).

Hypnosis: therapy by recovery of deeply repressed memories. Play therapy is given to children through toys, and plays to express conflicts, and feelings, which he or she is unable to communicate directly. Electroshock: Treatment applied to brain by producing convulsions, through electric current, chiefly for severe depression and drug therapy: Treatment by drugs, such as anti-anxiety agents (diazepam), antipsychotic tranquilizers (chlorpromazine), lithium, antidepressants etc.

A psychiatrist is a medical doctor (MD or DO.) who specializes in mental health, including substance use disorders. Psychiatrists are qualified to assess both the mental and physical aspects of psychological problems. People seek psychiatric help for many reasons. The psychiatrist carefully collects detail history of patient and family, including social, economical, environmental, medical and carries out thorough physical and psychological examinations, orders required further investigations, observes patient's perceptions, evaluates patient's behavior, distinguishes between physiological and psychological and analyzes the examination results, evaluates patient's behavior, distinguishes, refers patients for specialized consultations, monitors and formulate diagnosis or assess for psychiatric disorders if any, and applies one of the following given therapy according to the established or tentative diagnoses as part of treatment:

Different types of therapies such as group therapy, sex therapy, family, psychoanalysis, between physiological and psychological disorders and diagnoses appropriately patient medical hypnosis, play therapy, electric shock therapy and drug therapy. Psychic disorders, which are e.g., affective disorders: disorder of mood, e.g. manic-depressive illness, major depressions, etc. Manic-depressive illness is characterized by alternating moods of mania, such as excitement, activity, and exalted feelings and decreased in need for sleep. Major depression, involves severe dysphonic mood like sadness, hopelessness, irritable and worry etc., Similarly there are many disorders such as anxiety, somatoform, Dissociative Disorder (Hysterical Neurosis), Psychosexual, Transvestism, Exhibitionism, Sexual Masochism, Transsexualism, Fetishism, Sexual Sadism, Personality disorders, Antisocial, Passive Aggression, Histrionic, Narcissistic, Paranoid, Delirium, Dementia, Schizophrenic, Paranoiac, Chronic and drug dependence (Substance-induced disorders). A psychiatry condition, if untreated, may develop into insane condition, which may become madness.

14. Medical / Clinical Psychology: Clinical psychology includes the study and application of psychology for the purpose of understanding, preventing, and relieving psychologically-related distress or dysfunction and promoting subjective wellbeing, and personal development. The psychological assessment and psychotherapy are part of general study, and clinical psychologists may also

engage in research, teaching, consultation, and program development and administration. Some clinical psychologists may focus on the clinical management of patients with brain injury, which is known as clinical neuropsychology. In many countries, clinical psychology is a profession that deals with mental health. The clinical psychologist performs the work specially related to children with abnormal behavior and activities either they are too intelligent or too feeble to their age or parents or society is more concerned about their future.

There are four major theoretical perspectives that are psychodynamic, cognitive-behavioral, existential-humanistic, and systems or family therapy. Cognitive psychology studies cognition, the mental processes underlying mental activity. The research made it interesting to explore more on learning, perception, problem-solving, reasoning, thinking, memory, attention, language and emotion, and other related areas. Communities psychologists seek to understand the quality of life of individuals, families, communities and their aim is to enhance improve quality of life through collaborative research and efficient practice. Counselors are primarily clinicians, using psychotherapy and other interventions in order to treat patients and potential patients. As conventionally, counseling psychology has been focusing more on normal developmental issues and on daily basis stress rather than psychopathology. Critical psychology is under transformation to find new ways and methods to deal with cases within an effective way to promote human welfare, and critical psychology endeavours to broaden the view of that mandate.

Educational psychology is the effectiveness of educational interference within the set educational program, which adds value to the effective teaching psychology and social psychology. Evolutionary psychology explores the genetic roots of mental and behavioral patterns, and that common patterns may have emerged because they were highly adaptive for humans in the environments of their evolutionary past. Child psychology and social psychology are concerned with the practical needs of modern medicine, and psychological issues that are in vogue. The medical-legal, with forensic psychology, is involved with the practices including the clinical evaluations of defendants, reports to judges, and courtroom testimony on given issues. Forensic psychologists are involved in a variety of psychological cases related to evaluating sex offenders and treatments and provide recommendations to the court through written reports, and testimony. Health psychology is mainly related to health illness and health care of needy clients and clinical psychology focuses on mental health and neurological illness. Health psychology is mainly concerned with the wider range of health-related behavior including healthy eating and living. Health psychology closely creates a working link between the doctor-patient relationship, a patient's understanding of health information and

viewpoint about illness, and being involved in public health campaigns, examining the impact of illness or health policy on quality of life as a preventive promotive of the psychological impact of health and social care that would build-up healthy society. Social psychology professionals have become indispensable in the care of patients social psychology is the study of social behavior and mental processes with an emphasis on how humans think about each other and how they relate to each other. Social psychologists are especially interested in how people react to social situations.

Personality psychology studies enduring patterns of behavior thought, and emotion in individuals commonly referred to as personality. Abnormal psychology studies the nature of psychopathology and its causes, and this knowledge is applied in clinical psychology to treat patients with psychological disorders. Biological psychology is the scientific study of the biological, status of behavior and mental states. There has been a growing movement to integrate the various therapeutic approaches, especially with an increased understanding of issues regarding culture, gender, spirituality, and sexual orientation. With the advent of more vigorous research findings regarding psychotherapy, there is evidence that most of the major therapies are about of equal effectiveness, with the key common element being a strong therapeutic association. In view of new findings and conducting various training programs, psychologists are now adopting an eclectic therapeutic orientation that has been found very useful and significant outcome.

X	Medical Terminology
----------	----------------------------

OBJECTIVES IN STUDYING THE MEDICAL LANGUAGE

- To analyze words structurally.
- To correlate and understand word elements with the basics of anatomy, physiology, and diseases of human body.
- To pronounce and write correct spelling of medical terms.

Basic Word Structure

Studying medical words is similar to learning of a new language. The words at first look strange and complicated although they may stand for commonly known English terms. The words gastralgia, means ‘stomach ache,” and ophthalmologist, means “eye doctor,” are some examples.

The medical language is fascinatingly logical in each term, complex or simple, can be broken into basic components and then understood.

These basic components of medical words are:

Root	Foundation of the word	
Example	gastr/ic root (stomach)	
Suffix:	Word ending	
Examples	gastr/itis	gastric
	Suffix:(inflammation) Suffix (pertaining to)	
Prefix:	Word beginning	
Examples:	epi/gastr/ic	Ad/renal
	prefix (above)	prefix (above)
Combining vowel:	A vowel (usually “O”) links the root with the suffix Or To another root	
Examples:	Cardi/o/gram	ealectro/crdi/o/gram
	root suffix	root root suffix
	Combining vowel	combining vowel

CHIEF SOURCES OF MEDICAL WORDS

ANGLO-SAXON (OLD ENGLISH)

These words are from old English, which are mostly anatomical terms.

Examples:

Arm Back Bladder Blood Cheek Chest
Chin Ear Eye Finger Hair Nose
Thumb, etc.

GREECO-ROMAN (GREEK AND LATIN)

These words are from Greek and Latin languages.

Examples:

Marrow—the word marrow is derived from the Latin word medulla.

Myelitis (G) originating from the Greek word myelos. The word myelitis is the inflammation of marrow.

Crani (G and L) : Skull
Cerebro (L) : Brain
Illi (L) : Ilium
Rhin (G) : Nose
Pneumo (G) : Lungs, air

ARABIC

Most of these words are used to describe chemical substances.

Examples:

Sharab : Sweet beverage (syrup)

Matter : Mother
Alcohol : Something subtle

MODERN GERMAN

These words are derived from French (Modern German).

Example:

Fahrenheit (German Physicist) for thermometer

Kernicterus : Yellow (Jaundice)

COLORS

<i>S.No.</i>	<i>Color</i>	<i>Medical terms</i>	<i>Examples</i>
1.	White	Albus	Albinism
2.	White	Leukos	Leukocyte
3.	White	Candidus	Candidiasis

4.	Black	Melan	Melanoma
5.	Black	Niger	Nigrometer
6.	Red	Erythros	Erythrocyte
7.	Red	Ruber	Rubericyte
8.	Yellow	Flavus	Flavism
9.	Yellow	Xanthos	Xathoma
10.	Green	Chloros	Chlorhydria
11.	Green	Glaucos	Glaucoma
12.	Blue	Cynos	Cyanosis
13.	Brown	Cirrhos	Cirrhosis
14.	Violet	Iodes	Iodine
15.	Purple	Porphyros	Porphyrinuria
16.	Ashy	Cinerous	Cinerea
17.	Golden	Aureus	Aueromycin

NUMERALS

<i>S.No.</i>	<i>Numerals</i>	<i>Medical terms</i>	<i>Examples</i>
1.	Half	Semi	Semilunar
2.	Half	Hemi	Hemiplegia
3.	First	Primus	Primigravida
4.	One	Unus	Unilateral
5.	Single	Monos	Monocular
6.	Two	Duo	Duodenum
7.	Second	Secundus	Secundine
8.	Two at a time	Bini	Binocular
9.	Twice	Bi, Dis, Di	Dislocation
10.	Three	Tri	Tricuspid
11.	Four	Quadri, Tetra	Quadriplegia, Tetralogy
12.	Five	Quinique	Quintuplet
13.	Six	Sex, Hex	Sexdigitate, Hexadactylism
14.	Seven	Hepta	Heptadactylia
15.	Eight	Octa	Octigravida
16.	Nine	Non	Nonipara
17.	Ten	Deca	Decameter
18.	One 100	Centi,	Centi is one hundredth
19.	One 1000	Kilo,	Milli is one thousandth
20.	1,000,000	Mega	
21.	1/1,000,000	Micro	

ELEMENTS OF MEDICAL TERMS

SUFFIXES AND COMPOUNDING ELEMENTS

True suffixes refer to a syllable denoting a preposition or adverb attached to the end of a word, root, or stem to modify its meaning. Many endings are adjectives or nouns added to a root to form compound words. They may be combining forms or pseudo-suffixes. To simplify learning, the modifying endings have been classified according to their meanings into diagnostic, operative and symptomatic suffixes and compounding elements.

Diagnostic Suffixes and Compounding Elements

<i>Suffix</i>	<i>Medical term</i>	<i>Definition</i>
-aemia (G) blood	Hyperglycemia	High blood sugar
-cele(G) hernia tumor protrusion	Cystocele	Hernia of the bladder
	Hydrocele	Serous tumor as of testis
	Myelocele	Protrusion of spinal cord through the vertebrae
-ectasis (G)	Atelectasis -neonatorum	Imperfect expansion of lungs at birth
	Bronchiectasis	Abnormal dilatation of a bronchus or bronchi
-graphy(G) Act of recording or writing	Electrocardiography	The recording of the electricity flowing through the heart
	Electrocardiography	A diagnostic procedure in which pulses of high frequency sound waves (ultrasound) are transmitted into the chest and echoes returning from the surfaces of the heart are electronically plotted and recorded.
-iasis (G) Condition formation of Presence of	Lithiasis	Formation of stones
	Cholelithiasis	Presence of calculi in the gallbladder
	Nephrolithiasis	Stones present in the kidney
-itis (G) inflammation	Carditis	Inflammation of the heart
	Gastritis	Inflammation of the stomach
	Poliomyelitis	Inflammation of gray matter of the spinal cord
-malacia (G)	Encephalomalacia	Softening of the brain

softening	Osteomalacia	Softening of the bones
	Splenomalacia	Softening of the spleen
-megaly (G) enlargement	Cardiomegaly	Enlargement of the heart
	Hepatomegaly	Enlargement of the liver
	Splenomegaly	Enlargement of spleen
-oma (G) tumor	Adenoma	Glandular tumor
	Carcinoma	Malignant tumor of epithelial tissues
	Sarcoma	Malignant tumor of connective tissue
-osis (G) condition, diseases, increase	Arteriosclerosis	Hardening of the arteries
	Dermatosis	Any skin condition
	Neurosis	Functional disorder of the nervous system
-pathy (G) disease	Adenopathy	Any glandular disease
	Myopathy	Any diseases of a muscle
	Myelopathy	Any pathological disorder of the spinal cord
-ptosis (G) falling	Blepharoptosis	<i>Drooping or (downward displacement) of the eyelid</i>
	Gastroptosis	Downward displacement of the stomach
	Nephroptosis	Downward displacement of the kidney
-rhexis (G) rupture	Angiorhexis	Rupture of a blood vessel or lymphatic
	Cardiorhexis	Rupture of the heart

Operative Suffixes and Compounding Elements

<i>Suffix</i>	<i>Medical term</i>	<i>Definition</i>
-centesis (G) Puncture	Paracentesis	Puncture of a cavity
	Thoracentesis	Aspiration of the pleural cavity
-ectomy (G) excision	Myomectomy	Excision of a tumor of the muscle
	Tonsillectomy	Removal of tonsils
-desis (G) binding fixation	Arthrodesis	Surgical fixation of a joint
	Spondylosyndesis	Surgical fixation of the vertebrae
-lithotomy (G) incision for Removal of stones	Cholelithotomy	Incision into gallbladder for removal of stones
	Nephrolithotomy	Incision into kidney for removal of stones

-pexy (G) suspension or fixation	Hysteropexy	Abdominal fixation or suspension of the uterus
	Orchiopexy	Fixation of an undescended testis
-plasty (G) surgical correction or plastic repair	Arthroplasty	Reconstructive operation on joint
	Hernioplasty	Plastic repair of hernia
-orrhaphy (G) suture	Perineorrhaphy	Suture of a lacerated perineum
	Staphylorrhaphy	Suture of a cleft palate
-scopy (G) inspection or examination	Bronchoscopy	Examination of the bronchi with an endoscope
	Cystoscopy	Inspection of the bladder with a cystoscope
-ostomy (G) creation of a more or less opening	Colostomy	Creation of an opening into the colon through the abdominal wall
	Cystostomy	Creation of an opening into the urinary bladder through the abdomen
-otomy (G) incision into	Antrotomy	Incision into the antrum for drainage
	Thoracotomy	Opening of the chest
-tripsy (G) crushing or friction	Lithotripsy	Crushing of a calculus in the bladder or urethra
	Phrenicotripsy	Crushing of the phrenic nerve
Symptomatic Suffixes and Compounding Elements		
<i>Suffix</i>	<i>Medical term</i>	<i>Definition</i>
-algia (G) pain	Gastralgia	Stomach pain
	Nephralgia	Renal pain
-genic (G) origin	Bronchogenic	Originating in the bronchi
	Pathogenic	Disease producing
-lysis (G) dissolution or breaking down	Hemolysis	A breaking down of red blood cells
	Neurolysis	Disintegration of nerve tissue
-osis (G) increase or condition	Anisocytosis	Inequality of size of cells
	Lymphocytosis	Excess of lymph cells
-penia (G) deficiency or decrease	Leukopenia	Abnormal decrease of leukocytes in the blood
	Neutropenia	Abnormal decrease of neutrophils in the blood
-rrhage,	Hemorrhage	The escape of blood from the vessels; bleeding

-rrhagia (G) excessive flow bursting forth	Metrorrhagia	Uterine bleeding
	Otorrhagia	Hemorrhage from the ear
-rrhoea (G) flowing	Metrorrhoea	A free or abnormal uterine discharge
	Dysmenorrhoea	Painful menstruation
	Otorrhoea	Discharge from the ear
-spasm (G) involuntary contractions	Chirospasm	A spasm as contraction of the hand (Writer's cramp)
	Dactylospasm	Spasm or cramp in fingers or toes
-stasis (G) stand still	Hemostasis	Interruption of blood flow through any vessel or to any anatomical area
-stenosis (G) narrowing, contraction	Aorticstenosis	A narrowing of the aortic orifice of the heart
	Mitralstenosis	A narrowing of the left atrio-ventricular orifice

ROOTS

The root stem or main body of a word indicates the organ or part of which is modified by a prefix or suffix, or both. Properly, Greek combining forms or roots should be used only with Greek prefixes and suffixes, Latin with Latin. A vowel, usually a, i, or o is often inserted between the combining forms for euphony.

Root	Medical term	Definition
aden (G) gland	Adenectomy	Excision of a gland
	Adenoma	Glandular tumor
aer (G) air	Aerated	Filled with air
	Aerobic	Pertaining to organism, which lives only in the presence of air
Angio (G) vessel	Angiotomy	Incision of blood vessels
	Angitis	Inflammation of the blood vessels
arth (G) joint	Arthralgia	Pain in the joints
	Arthritis	Inflammation of the joints
blephar (G) eyelid	Blepharitis	Inflammation of the eyelid
	Blepharoptosis	Drooping of the upper eyelid
card (G) heart	Cardiology	The science of the heart
	Electrocardiogram	A graphic record of the heart beat by an electrometer
cerebro (L) brain	Cerebromalacia	Softening of the brain
	Cerebrospinal	Referring to brain and spinal cord
cephal (G)	Cephalalgia	Headache

head	Cephalic	Pertaining to the head
cerv (L) neck	Cervicectomy	Excision of the neck of the uterus
	Cervicovesical	Relating to the cervix uteri and bladder
cheil, chil (G) lip	Cheilitis	Inflammation of the lip
	Cheiloplasty	Plastic operation of the lip
chir (G) hand	Chiromegaly	Abnormal size of the hands, wrists and ankles
	Chiroplasty	Plastic repair of the hand
	Cholangitis	Inflammation of bile duct
chol (G) bile	Cholecyst	Gallbladder
chondr (G) cartilage	Chondrectomy	Excision of a cartilage
	Chondroma	A cartilaginous tumor
cost (L) rib	Costochondral	Pertaining to a rib and its cartilage
	Costosternal	Referring to the ribs and breast bone
crani (G,L) skull	Craniotomy	Surgical opening (incision) of the skull
cysto (G) bladder, sac	Cyst	A bladder; any sac containing a liquid
	Cystoscope	Instrument for interior examination of the bladder
cyt (G) cell	Cytology	The study of cell life
	Erythrocyte	Red blood cell
Dacry (G) tear	Dacryoceles	Protrusion of the lacrimal sac
	Dacryocyst	The lacrimal sac
dactyl (G) finger, toe	Dactylitis	Chronic disease of bone of fingers or toe in young children
	Dactylomegaly	Abnormal size of fingers and toes
derm (G) skin	Dermatitis	Inflammation of the skin
	Dermopathy	Any skin disease
encephal (G) brain	Encephalitis	Inflammation of the brain
	Encephaloma	Brain tumor
enter (G) intestine (small)	Enteritis	Inflammation of the small intestine
	Enterocoele	A hernia of the small intestine
gastr (G) stomach	Gastrextasis	Dilatation of the stomach
	Gastroenteritis	Inflammation of the stomach and the small intestine

glyco (G) sweet	Glycemia	Sugar in blood
	Glycosuria	Sugar in urine
hem, haemat (G) blood	Hematemesis	Vomiting of blood
	Hemophilia	Inability of the blood to coagulate
hepat (G) liver	Hepatitis	Inflammation of the liver
	Hepatoma	A liver tumor
hyster (G) ormetr uterus	Hysterectomy	Excision of the uterus
	Hysteropexy	Abdominal fixation of the uterus
ile, eile, (L-G) ileum	Ileum	Third part of the small intestine
	Ileostomy	Creation of an opening through abdomen into the ileum
ili (L) ilium	Ilium	The wide, upper part of the hip bone
	Iliosacral	Pertaining to ilium and sacrum
leuk (G) white	Leukocyte	White blood cell
	Leukopenia	Abnormal decrease in number of leukocyte
lip (G) fat	Lipectomy	Excision of fatty tissues
	Lipemia	Fat in the blood
lith (G) stone	Lithiasis	Presence of concretions or stones
	Lithoscope	Instrument for examining stone in bladder
menig (G) membrane	Meningitis	Inflammation of the membranes of spinal cord and brain
	Meningioma	Tumor of the meninges
metr (G) orhystr uterus	Metritis	Inflammation of the uterus
	Metrorrhagia	Bleeding from the uterus
myel (G) marrow	Myelitis	Inflammation of spinal cord or bone marrow
	Myelosarcoma	Malignant tumor of the bone marrow
my (G) muscle	Myitis or myositis	Inflammation of a muscle
	Myocardium	The middle and thickest layer of the heart wall
nephr (G) kidney	Nephropexy	Surgical attachment of a floating kidney
	Nephrosclerosis	Hardening of the kidney
ophthalm (G) eye	Ophthalmology	The study of the eye and its diseases
	Ophthalmoscope	Instrumental examination of the eye
osteo (G) bone	Osteoma	A bony tumor
	Osteomalacia	Softening of the bone
pneum (G) lung, or air	Pneumonia	Inflammation of the lungs with consolidation and exudation
	Pneumothorax	Introduction of air into the pleural cavity
proct (G)	Proctoscopy	Instrumental examination of the rectum

rectum, anus	Proctopexy	Suture of the rectum to some other part
psycho (G) disorders soul, mind	Psychiatry	Medical specialty treating mental and neurotic
	Psychopathy	Any mental disease usually related to defective character and personality
pyel (G) pelvis	Pyelitis	Inflammation of the pelvis of the kidney
	Pyelogram	Radiogram of the ureter and renal pelvis
pyloro (G) gatekeeper	Pylorus	Orifice between stomach and duodenum
	Pylorostenosis	Constriction of pylorus
pyo (G) pus	Pyogenic	Pus forming
	Pyometritis	Purulent inflammation of the uterus
radi (L) ray	Radiology	The study of X-rays in the diagnosis and treatment of disease
	Radiotherapy	The use of radiation of any type in treating diseases
spondyl (G) vertebra	Spondylitis	Inflammation of vertebrae
	Spondylolisthesis (olisthesis: slipping)	Forward dislocation of lumbar vertebrae with pelvic deformity
trachel (G) orcervi neck	Trachelitis	Inflammation of the cervix
	Tracheloplasty	Plastic operation of the cervix uteri
tubercul (L) tubercle	Tuberculosis	An infectious disease marked by the formation of tubercles in any tissue
	Tuberculoma	A tuberculous abscess or tumor
viser (L) organ	Viscus	Pertaining to the internal organs
	Viscera	

PREFIXES

Prefixes are the most frequently used elements in the formation of medical terms. A prefix consists of one or two syllables placed before a word to modify its meaning. These syllables are often prepositions or adverbs. Some common prefixes are:

<i>Prefix</i>	<i>Medical term</i>	<i>Definition</i>
ab (L) from, away from	Abductor	That which draws away from a common center
	Abnormal	Away from or not corresponding to rule
a, an (G) without, not	Apnea	Temporary absence of respiration
	Anesthesia	Loss of sensation
ad (L) increase, near, toward	Adductor	That which draws toward a common center
	Adrenal	A ductless (endocrine) gland above the kidney
ante (L)	Antenatal	Before birth

before	Antepartum	Before the onset of labor
anti (G) against	Antisepsis	The exclusion of putrefactive germs
	Antipyretic	A drug that reduces fever
bi (L) two,both, double com, con, or	Biconvex	Having two convex surfaces as in a lens
	Bilateral	Affecting both sides
sym (L) together, with	Congenital defect	Born with a defect, hereditary
	Conjunctiva	Mucous membrane which lines eyelids
contra (L) against, opposite	Contraception	The prevention of conception
	Contraindication	A condition antagonistic to the line of treatment
dys (G) bad, difficult, Painful	Dysentery	Inflammation of intestinal mucous membrane Accompanied by pain
	Dysmenorrhea	Painful menstruation
	Dyspepsia	Imperfect digestion
	Dysphagia	Difficulty in swallowing
	Dysphasia	Impairment of speech
	Dyspnea	Labored or difficult breathing
	Dysuria	Pain or difficult urination
ec (G) out, ecto (G) outside ex-out em, en (G) in	Ectopic pregnancy	Gestation outside the uterine cavity
	Ectropion of eyelid	Eversion as the edge of the eyelid
	Empyema	Pus in a body cavity, especially in the pleural cavity
	Encephalopathy	Any disease of the brain
endo (G) within	Endocardium	Lining membrane of inner surface of the heart
	Endocarditis	Inflammation of the endocardium
	Endocrine gland	A ductless gland in which an internal secretion forms
	Endometrium	The mucous membrane lining the inner surface of the uterus
	Endometritis	Inflammation of the endometrium
	Endoscope	Tubular instrument for examining cavities through natural openings
	Endoscopy	Inspection of cavities by use of the endoscope
epi (G) in addition to	Epidermis	Cuticle or outer layer of the skin upon, at,
	Epigastrium	Region over the pit of the stomach
	Epiphysis	A center of ossification at both extremities of long bones
ex (G)	Exacerbation	Aggravation of symptoms

out, away from, over	Exophthalmia	Abnormal protrusion of the eyeballs
	Expectoration	Expulsion of mucus from the lungs
	Exudate	Accumulation of fluid due to inflammatory Condition
hemi (G), or semi (L) half	Hemiplegia	Paralysis of one-half of the body
	Hemiglossectomy	Removal of half a tongue
hyper (G) above, excessive, beyond	Hyperacidity	An excess of acid in the stomach
	Hypercalcemia	Excess of calcium in the blood
	Hyperemesis	Excessive vomiting during early pregnancy gravidarum
	Hyperemia	Congestion
	Hyperpyrexia	High fever (above 106 degree Fahrenheit)
	Hypertension	High blood pressure
hypo (G) below, deficient	<u>Hypodermic injection</u>	<u>Injection under the skin</u>
	Hypoglycemia	Low blood sugar
Inter (L) between	Intercostal	Between two ribs
	Interfemoral	Between the thighs
meta (G) next, between	Metabolism	The sum of all the physical and chemical processes by which living organized substance is produced and maintained
	Metacarpal	Bone of the metacarpus
para, par (G) beside, around near, abnormal	Paracentesis	Puncture of a cavity with tapping
	Parametritis	Inflammation of the parametrium around,
	Paranephritis	Inflammation of suprarenal capsules; of Connective tissue above the kidney
	Parathyroid	Ductless gland near the thyroid gland
peri (G) around, about	Pericardium	The double membranous sac enclosing the Heart
	Pericarditis	Inflammation of the pericardium
	Perimetritis	Inflammation of the serous membrane enveloping the uterus
	Periostitis	Inflammation of the periosteum
pre (L, G) before, in front of	Precancerous	Before the development of carcinoma
	Pericardium	Region over the heart
	Preeclampsia	Eclampsia before delivery (Eclampsia is major Toxemia during pregnancy)

	Presentation	Manner of the fetus presenting itself at the Cervix
pyo (G) pus	Pyocele	A collection of pus in the scrotum
	Pyocyst	A cyst containing pus
	Pyonephritis	Purulent inflammation of the kidney
post (G)	Postpartum	After delivery
	Postnatal	After birth
retro (L) backward, behind, back of	Retroflexion	A bending or flexing backward; for example of the uterus
	Retroperitoneal	Located behind the peritoneum
	Retroversion	A state of being turned back; for example, of The uterus
semi (L) half	Semicoma	Mild degree of coma
	Semilunar valves	Half-moon shaped valves of the aorta and pulmonary
sub (L) beneath, below super,	Subclavicular	Beneath the clavicle
	Subcutaneous	Beneath the skin
	Suppuration	The process of pus formation
	Supernatant	Floating on surface
supra (L) above, beyond, superior	Supraoccipital	Situated above the occiput
	Suprapubic	Surgical opening into the bladder from above
	cystotomy	the symphysis pubis
	Suprarenal	Adrenal gland above the kidney
sym (G) with, along, togetherbeside	Symphysis of pubis	Fusion of pubic bone on midline anteriorly
	Synarthrosis	An immovable joint
	Syndactylism	A fusion of two or more fingers or toes; webbing
toxi (G) poison	Toxicology	The science or study of poisons
	Toxicosis	Any diseased condition due to poisoning
	Toxicophobia	Irrational fear of being poisoned
trans (L) across, over	Transection	Incision across the long axis; cross section
	Transfusion	Injection of the blood of one person into the blood vessel of another
	Transurethral	Passing through, perform by way of urethra
	Prostatectomy	Excision of the prostate gland through the urethra
tri (G) three	Tricuspid	Having three cusps or points; tricuspid valve
	Trifacial	Fifth cranial nerve
	Trigone	A triangular space, especially that of the lower part of the urinary bladder

XI Medical Terminology with Terms and Meanings			
S. No	Term	S. No	Meaning
1	Duodenostomy	1	Forming a new opening in the duodenum
2	Dermatologist	2	A specialist in field of skin diseases
3	Megalocardia	3	Enlargement of the heart
4	Gastritis	4	Inflammation of the stomach
5	Electrocardiography	5	Recordings of electrical waves of the heart
6	Gastralgia	6	Pain in the stomach
7	Acrocyanosis	7	A condition of blueness of the extremities
8	Etiology	8	Study of, or pertaining to, causes (of disease)
9	Symptomatic	9	Pertaining to a symptom
10	Cardiologist	10	A physician who specialized in the study of the heart
11	Megalogastria	11	Enlarge or large stomach
12	Symptomatic	12	Correcting a Symptom
13	Cyanoderma	13	A bluish discoloration of the skin
14	Leukocyte or (Leukocytosis)	14	A white blood cell
15	Leukemia	15	A disease of too many white cells in the blood
16	Gastrectomy	16	Excision or removal of stomach
17	Duodenal	17	Pertaining to the duodenm
18	Cyanosis	18	A generalized condition of blueness
19	Cardialgia	19	Heart pain
20	Etiology	20	The study and causes of an illness
21	Osteomalacia	21	Softening of bone tissue
22	Adenoma	22	Tumor of glandular tissue
23	Intercostal	23	Between the ribs
24	Cephalalgia	24	Headache
25	Chondrectomy	25	Surgical removal of cartilage
26	Encephalocele	26	Herniation of the brain tissue inside of the head
27	Hypertrophy	27	Overdevelopment
28	Arthroplasy	28	Surgical repair of joint
29	Hypodermic	29	A needle inserted under the skin
30	Laryngotomy	30	Incision into the larynx
31	Hyperemesis	31	Excessive vomiting
32	Dentalgia	32	Toothache
33	Thyroidectomy	33	Surgical removal of the thyroid gland

34	Adenitis	34	Inflammation of glandular tissue
35	Carcinoma	35	A malignant tumor
36	Mucoid	36	Resembling mucous
37	Laryngostomy	37	Making a new permanent opening into the larynx
38	Encephalitis	38	Inflammation inside the head
39	Lipoma	39	A tumor of fat tissue
40	Dental	40	Pertaining to the teeth
41	Abdominalgia	41	Bellyache or stomach ache
42	Thoracocentesis	42	Tapping or Puncturing of chest cavity
43	Cholelithotomy	43	Incision for the purpose of removing a gallstone
44	Otorrhea	44	Running or draining from the ear
45	Cystotomy	45	Incision into the bladder
46	Cerebrospinal	46	Pertaining to the cerebrum and spinal cord
47	Hydrophobia	47	Abnormal fear of water
48	Adduction	48	Movement toward the midline
49	Streptococci	49	Cocci bacteria that grow in chains
50	Cranium	50	The bony vault surrounding the brain
51	Pyogenic	51	Producing pus
52	Aberrant	52	Wandering or out of the normal place
53	Pubic	53	Relating to the pubis
54	Cholecystotomy	54	Incision into the gallbladder
55	Urocystoplasty	55	Surgical repair of the urinary bladder
56	Cholelith	56	Gallstone
57	Craniotomy	57	Incision into the cranium
58	Cystocele	58	Herniation of a bladder
59	Cardiocentesis	59	Tapping or puncturing of the heart chamber
60	Cranioplasty	60	Surgical repair of the bony vault that encloses the brain
61	Otalgia	61	Earache
62	Rhinitis	62	Inflammation of the nose
63	Pelvimetry	63	Measurement of the pelvis
64	Thoracolumbar	64	Relating to the thorax and the loin area
65	Hydrocephalus	65	Collection of fluid in the head
66	Suprapubic	66	Relating to above the pubis
67	Thoracoplasty	67	Surgical repair of the chest cage
68	Abdominal	68	Relating to the abdomen
69	Cholecystectomy	69	Surgical removal of the gallbladder
70	Pelvimeter	70	Instrument for measuring the pelvis
71	Melanoma	71	Black tumor

72	Blepharospasm	72	Twitching of the eyelid
73	Spermatoid	73	Resembling sperm
74	Nephroptosis	74	Dropping of kidney from its normal place
75	Oophoropexy	75	Surgical fixation of the ovary
76	Angioblast	76	Embryonic vessel cell
77	Ureterotomy	77	Incision into the ureter
78	Angiosclerosis	78	Hardening of vessels
79	Hysterotomy	79	Incision into the uterus (cesarean section)
80	Bradypnea	80	Abnormally slow breathing
81	Nephrolith	81	Kidney stone
82	Myospasm	82	Muscle spasm (“charley horse”)
83	Dyspepsia	83	Painful digestion (“heartburn”)
84	Hemolysis	84	Destruction of blood cells
85	Pneumotherapy	85	Treatment using air
86	Myosclerosis	86	Hardening of muscle
87	Tachypnea	87	Abnormally fast breathing
88	Dysmenorrhea	88	Painful menstruation
89	Hysterospasm	89	Spasm of the uterus
90	Kinesiology	90	The study or science of motion
91	Apnea	91	Cessation of breathing
92	Cystorrhagia	92	Hemorrhage (bleeding) from the bladder
93	Oophorectomy	93	Surgical removal of ovary
94	Uterolithotomy	94	Incision into the ureter for removing stone
95	Salpingectomy	95	Surgical removal of the fallopian tube
96	Pneumothorax	96	Air in the chest cavity
97	Angiospasm	97	Spasm of the vessels
98	Pnumonitis	98	Inflammation of the lungs
99	Urethrotomy	99	Incision into the urethra
100	Kinesialgia	100	Muscle pain due to motion
101	Glossoplegia	101	Paralysis of the tongue
102	Lithiotripsy	102	Crushing of a calculus (stone)
103	Hemodialysis	103	Cleansing the blood to remove excess toxins
104	Polyarthrits	104	Inflammation of many joints
105	Diplopia	105	Double vision
106	Colic	106	Relating to the colon
107	Phlebitis	107	Inflammation of the vein
108	Dactylogram	108	Finger print
109	Analgesia	109	Absence of pain
110	Cheilitis	110	Inflammation of the lips
111	Hypoesthesia	111	Less than normal sensation

112	Neuromyelitis	112	Inflammation of nerves of the spinal cord
113	Macrocephalus	113	Abnormally enlarged head
114	Hepatomegaly	114	Enlargement of the liver
115	Syndrome	115	Symptoms that occur together or disease
116	Ileoplegia	116	Paralysis of the ileum
117	Cystorrhesis	117	Rupture of the bladder
118	Hyperesthesia	118	Abnormally intense feeling or sensation (pain)
119	Prognosis	119	Predicting the outcome (beforehand knowledge)
120	Hysterorrhesis	120	Rupture of uterus
121	Gastrectasia	121	Dilatation of the stomach
122	Diathermy	122	Heat that goes through
123	Dactylomegaly	123	Enlarged fingers
124	Hepatitis	124	Inflammation of the liver
125	Esthesiometer	125	Instrument for measuring sensation
126	Rectal	126	Relating to the rectum
127	Colostomy	127	Formation of a new opening in the colon
128	Myokinesiology	128	Study of muscle movement
129	Syndactylism	129	Growing together of fingers and toes
130	Syncope	130	Faint or Swoon
131	Pyrexia	131	Fever
132	Venostasis	132	Slowness of flowing in a vein
133	Epistaxis	133	Nose bleed
134	Erythremia	134	Disease of too many red cells in the blood
135	Hidradenitis	135	Inflammation of sweat gland
136	Caudal	136	Relating to the tail
137	Anterior	137	Location in front of
138	Xanthopia	138	Yellow color of the eye
139	Alopecia	139	Baldness
140	Ophthalmalgia	140	Pain in the eye
141	Menses	141	Monthly cycle known as menstruation
142	Laparorrhaphy	142	Slowness of flowing in vein
143	Visceralgia	143	Painful gut
144	Leukemia	144	Disease of too many white cells in the blood
145	Menopause	145	Cessation of mensus
146	Leukocyte	146	A white blood cell
147	Anoxia, hypoxia	147	Lack of sufficient oxygen
148	Dorsal	148	Relating to back
149	Laparotomy	149	Incision into the abdominal wall
150	Hyperhidrosis	150	Excessive sweating
151	Macrocheilia	151	Abnormally enlarged lips

152	Anhidrosis	152	No sweating (without sweating)
153	Amenorrhea	153	Lack of menstrual flow
154	Dorsolateral/Posterolateral	154	Location indicating behind and to the side
155	Xanthemia	155	Yellow color in the blood
156	Ventral	156	Relating to the front
157	Erythrocyte	157	Red Cell
158	Ophthalmic	158	Pertaining to the eye
159	Visceral	159	Relating to the gut (contents of the abdomen)
160	Melanoderma	160	Black color of the skin
161	Paracolpitis	161	Inflammation around vagina
162	Narcolepsis	162	An uncontrollable condition of falling sleep
163	Dehydration	163	A condition of having had water removed from
164	Heterosexual	164	One who is attracted to people of the opposite sex
165	Abort	165	Taking the fetus away from the mother's womb
166	Cryptorchidism	166	Undescended testicle
167	Multipara	167	A woman who has borne more than one child
168	Isotonic	168	Having the same osmotic pressure
169	Colpospasm	169	Spasm of the vagina
170	Hemodialysis	170	Cleansing the blood toxins
171	Retrosternal	171	A location behind the sternum
172	Peritonsillar	172	Relating to around the tonsil
173	Ectopic	173	Unusual location
174	Mononuclear	174	Single nucleus
175	Supernumerary	175	Beyond the usual number
176	Circumocular	176	Relating to around the eye
177	Abduction	177	Movement away from the midline
178	Ectopic	178	Out of place or unusual place
179	homosexual	179	One who is attracted to people of the same sex
180	Glycogen	180	The form in which the glucose is stored in the body
181	Ectoderm	181	The outer most layer of skin
182	Orchidopexy	182	Surgical fixation of testicles
183	Splenomegaly	183	Enlarged of spleen
184	Hematophobia	184	Fear of blood
185	Nulliparity	185	The condition of never having borne a child
186	Peridental	186	Pertaining to around the teeth

187	Retroperitonitis	187	Inflammation behind the ;peritoneal cavity
188	Colporrhaphy	188	Suturing of the vagina
189	Necrotic	189	Relating to dead tissue
190	Autodiagnosis	190	Diagnosing one's own illness
191	Transposition	191	Placed across to other side
192	Unicellular	192	Having a single cell
193	Semiconscious	193	Partly conscious or half conscious
194	Contraindication	194	Evidence that indicate against
195	Anteflexion	195	Bending forward
196	Hemiplegia	196	Paralysis of half the body
197	Extrauterine	197	Outside of the uterus
198	Antitoxin	198	A chemical agent that works against a toxin
199	Prenatal	199	Before birth
200	Subaural	200	Under the ear
201	Triceps	201	A three-headed muscle of the upper arm
202	Malposition	202	Bad or poor position
203	Intercranial	203	Within the cranium
204	Disassociate	204	Free from association
205	p.c.	205	After having eaten
206	Inframammary	206	Below the mammary gland
207	Insomnia	207	Inability to sleep
208	Bilateral	208	Relating to two sides
209	Semicircle	209	Half or part of circlce
210	Substernal	210	Pertaining to under the breat bone
211	Preoperative	211	Before the operation
212	Antipyretic	212	Having the property of acting against fever
213	Transfusion	213	Passing blood across from person to another
214	Unilateral	214	Only one side
215	Malnutrition	215	Poor nutrition (bad functioning)
216	Intravenous	216	Within a vein
217	Contraceptive	217	Chemical works against fertilization of ovum
218	Incompetency	218	Not being competent
219	Extrahepatic	219	Outside of the liver
220	Congenital	220	Existing since birth
221	Hemostasis	221	Slowed bloodflow
222	Pleuralgia	222	Pain of the Pleura
223	Noctiphobia	223	Fear of night or darkness
224	Ankylocheilia	224	Stiffness of the lips
225	Thrombophlebitis	225	Inflammation of the vein due to a blood clot

226	Pleurocentesis	226	Puncture or tapping of the pleura
227	Neoplasm	227	A new growth (tumor)
228	Ischiopubic	228	Relating to the ischium and pubic
229	Dextrocardia	239	Heart on the right
230	Sinsistromanual	230	Left handed
231	Nasomental	231	Pertaining to the nose and chin
232	Tracheorrhagia	232	Hemorrhage from the trachea
233	Vasoconstriction	233	Constriction of a vessel
234	Bacteriostatic	234	Stopping the growth of bacteria
235	Calcaneal	235	Relating to the calcaneus
236	Nasopharyngitis	236	Inflammation of the nose and pharynx
237	Pharyngitis	237	Inflammation of the Pharynx
238	Neonatal	238	Pertaining to new born
239	Dextropedal	239	Pertaining to the right foot
240	Carpectomy	240	Surgical excision of a carpus
241	Sternal	241	Pertaining to the sternum
242	Pubic	242	Relating to the pubis
243	Noctambulism	243	Night walking (Sleep walking)
244	Pleuritis	244	Inflammation of the pleua
245	Tracheotomy	245	Incision into the trachea
246	Phlebostasis, Venostasis	246	Showing the flow in the veins
247	Bronchoscopy	247	Examination by looking into the bronchus
248	Vasospasm	248	Spasm of a vessel
249	Ischiorectal	249	Relating to the ischium and rectum
250	Laryngospasm	250	Spasm of the larynx
251	Tympanorrhaphy	251	Suturing of the ear drum
252	Renogram	252	Picture (x-ray) of the kidney
253	Oncychoid	253	Resembling a nail
254	Keratoscleritis	254	Inflammation of the cornea and sclera
255	Traumatology	255	The scientific study of trauma
256	Corectasia	256	Dilatation of the pupil
257	Corneosclera	257	The membrane that forms cornea and sclera
258	Ophthalmologist	258	A specialized physician in the study of eye disease
259	Iridoplegia	259	Paralysis of the iris
260	Corneal	260	Relating to the cornea
261	Iridocele	261	Herniation of the iris
262	Retinoid	262	Resembling the retina
263	Onychocryptosis	263	Condition of hidden nail (ingrown nail)
264	Sclerectomy	264	Surgical removal of the sclera
265	Keratome	265	Instrument to cut the cornea

266	Omphalorrhexis	266	Rupture of the umbilicus
267	Tympanoplasty	267	Surgical repair (plastic surgery of) the tympanum
268	Coreometer	268	Instrument for measuring the pupil
269	Traumatic	269	Relating to trauma
270	Cornealiritis	270	Inflammation of the cornea and iris
271	Cycloplegia	271	Paralysis of the ciliary body
272	Retinoscopy	272	Examination of the retina
273	Iridectomy	273	Surgical excision of iris
274	Iridoplegia/iridoparalysis	274	Paralysis of the iris
275	Podogram	275	Footprint
276	Keratectasia	276	Dilatation of the cornea
277	Keretotomy	277	Incision into the cornea
278	Iritis	278	Inflammation of the iris
279	Nasolacrimal/rhinolacrimal	279	Pertaining to the nose and lacrimal duct
280	Retinitis	280	Inflammation of retina
281	Symptomato/o	281	Sign or Signal of illness
282	Acro/o	282	extremity
283	Megal/o	283	enlargement
284	Cyan/o	284	Blue
285	Gastr/o	385	Stomach
286	Etiology	286	Cause (of disease)
287	Supra	287	Above
288	Genesis, gen/o	288	Formation, Development
289	Scope, Scopy	289	Examination
290	Phob/ia	290	Fear
291	Peps/ia	291	Digestion
292	Hem/o	292	Blood
293	Salping/o	293	Fallopian tube
294	Hyster/o	294	Uterus
295	Pneum/o	295	Lung
296	Psych/o	296	Mind or Soul
297	Gynec/o	297	Woman
298	Phag/o	298	Eat
299	Therap/o	299	Treatment
300	Centesis	300	Puncture

XII	Brainstorming Questions (Answers can be found at Chapter-XIII)
1	A cell is a mass of protoplasm containing a _____
2	The human body is made of _____ numbers of cells.
3	There are 2 types of cell division-they are Mitosis and _____
4	The fluid inside the cell is called _____ fluid
5	The fluid outside the cell is called _____ fluid
6	Tissue is made up of a group of _____
7	Tissues can be classified into _____ major groups:
8	Organs are structures of several types of _____
9	The medical term of internal organ is _____
10	Eye is called cell or tissue or organ
11	A system is a group of _____
12	Muscular, Nervous, Endocrine, called system or organ or tissue _____
13	3 types of muscular tissues; Skeletal, Visceral and _____
14	Skeletal system contains _____
15	How many bones are there in the adult skeletal system? _____
16	The Nervous System consists of the Brain, _____ Nerves.
17	Sense organs consist of Eye, Ear, Nose, _____ Skin.
18	Sex glands (Ovaries and _____
19	Blood Composition _____ Blood Cells.
20	Blood contains: Thrombocytes; what is other name _____
21	Blood groups: A, B, _____ O, Rhesus factor (Rh) (+) and (-)
22	Lymphatic System contains: Lymph vessels, nodes and _____
23	_____ are the primary organs of the respiratory system
24	What system does Esophagus belong to?
25	Jejunum belongs to _____ Intestine
26	The sigmoid colon is part of _____
27	Accessory organs: Liver, Gallbladder, _____
28	Ureters belong to which system _____
29	Ovaries belong to which system _____
30	Hymen belongs to which system _____
31	The brain is located in the _____ cavity
32	The lung is located in the _____ cavity
33	Stomach located in the _____ cavity
34	Ureters, Urinary bladder, Urethra located in the _____ cavity
35	Nerves runs through vertebra is called _____ cavity
36	In front of the body is called _____
37	At the back of the body is called _____
38	Away from the surface is called _____
39	Near the surface is called _____

40	Below another structure is called _____
41	Above another structure is called _____
42	Pertaining to the sides _____
43	Lying on the back is called _____
44	Lying on the belly is called _____
45	Towards the structure _____
46	Away from the structure _____
47	What type of bones are found in the limbs/extremities: short or long
48	Short bones are found in the hands/limbs _____ (carpals)
49	Shoulder blades (scapula and _____)
50	Irregular bones are found in the Face and the _____
51	How many bones are there in Skull?
52	How many bones are there in Face?
53	How many bones are there in the Ear?
54	How many bones are there in Neck?
55	How many bones are in the Thoracic cavity
56	How many bones are there in Vertebral columns?
57	How many bones are there in Cranial?
58	How many bones are there in Thoracic?
59	How many bones are there in Lumbar?
60	How many bones are there in Sacrum?
61	How many bones are there in Coccyx?
62	Scapula and Clavicle belong to which limb?
63	Humerus belongs to which arm lower or upper
64	Radius and Ulna part of which arm
65	Carpal and metacarpal belong to _____
66	Fingers bones are called _____
67	The femur belongs to the upper or lower limb
68	Tibia and Fibula are part of the hand or leg
69	Tarsal belongs to the lower or upper limb
70	The pelvis belongs to the lower or upper limb
71	Name which carries various functions such as reproduction, respiration, excretion, and adaptation to the environment.
72	The -----is structured, which gives the power of movements
73	They -----conduct impulses all over the body.
74	_____give the body the power of movement;
75	_____are structures composed of several types of tissues
76	Groups of organs working together in a human is called _____
77	The _____system includes the bones, muscles, and joints
78	Muscles and_____ make up for most of the body's weight

79	The adult human skeleton contains _____ bones
80	The _____ consists of the cranium, face, and lower jaw
81	The _____ consists of the spinal column, ribs, and stern
82	The _____ bones of the skull protect the brain
83	The vertebral column is composed of _____ bone
84	The _____ is the set of five bones and it is the tailbone.
85	Name vessels that carry oxygenated blood _____
86	The _____ is a conical-shaped hollow muscular organ.
87	The organ is made of cardiac muscle is called _____
88	Blood circulation from the heart to the lungs and back Known as
89	_____ is the liquid portion of the blood.
90	_____ are formed in the red bone marrow of the spongy bones.
91	_____ or WBC that work with the immune system.
92	Blood is divided into _____ groups.
93	Lymph originates from the blood _____
94	Injecting antibodies against foreign organisms is called _____
95	More than _____ nerve cells are operating all over the body.
96	The nervous system is made up of innumerable nerve cells _____
97	The main function of the _____ is memory,
98	The Medulla oblongata is located at the base of the _____,
99	The _____ glands are exocrine glands producing saliva.
100	_____ is to move the food from the pharynx to the stomach.
101	The stomach, SI and LI together form the _____ tract
102	The _____ has three parts: Duodenum, jejunum, and Ileum
103	The _____ is the only organ, which has no anatomy
104	The _____ is the largest gland in the body
105	The _____ acts as both endocrine and exocrine gland
106	Thyroxin hormone released by _____ gland
107	_____ occurs when the diaphragm & the intercostal muscles relax.
108	_____ located below the lungs is the major muscle of respiration.
109	Muscular tube common for respiratory & digestive system _____
110	_____ are two cone-shaped organs help in breathing.
111	The right lung has _____ lobes and the left has two lobes.
112	Dome shaped muscle sits below the lungs and the heart is known as _____
113	organ that is essential for taste and speech is _____
114	The _____ is the organ for the smell.
115	The _____ system is also known as the excretory system
116	Two _____ convey urine from the kidney to the urinary bladder
117	The prostatic part is part of the Male or Female: _____
118	The female gonads are the _____

119	The male gonads are the _____
120	The _____ is filled with a fluid called amniotic fluid
121	_____ is the study of tumors
122	Patient with mental illness, emotional disturbances treated _____
123	Write chief source of medical words for -Cerebro
124	Write chief source of medical words for Sharab
125	Write chief source of medical words for Arm
126	Write chief source of medical words for Fahrenheit
127	Write medical terms for White
128	Write medical words for Black
129	Write medical words for Red
130	Write medical words for Yellow
131	Write the color name for the medical term Cynos
132	Write the color name for the medical term Chloros
133	Write the color name for medical term Cirrhosis
134	Write the color name for medical term Aureus
135	Write numeral for medical terms Semi
136	Write numeral for medical terms, Primus
137	Write numeral for medical terms for Duo
138	Write numeral for medical terms for Quadri or Tetra
139	Write numeral for medical terms Tri
140	Write medical terms for numeral Six
141	Write medical term for numeral Five
142	Write medical term for numeral Seven
143	Write medical term for numeral Nine
144	Write medical term for numeral Eight
145	True suffixes attached to the _____ of a word,
146	A prefix consists of one or two syllables placed _____ a word
147	Inflammation of heart (give medical term) _____
148	Inflammation of Stomach (give medical term) _____
149	Enlargement of the heart (give medical term) _____
150	Any Disease of the muscle is called _____
151	Removal of Tonsils – give medical term _____
152	Reconstructive operation on joint
153	Examination of a Bronchi with an endoscope is
154	Cystoscopy Inspection of the bladder with cystoscopy
155	Opening of the Chest is called _____
156	Nephralgia
157	Disease producing is called _____
158	A breaking down of red blood cells is called _____

159	Excess of Lymph Cells is called_____
160	The escaped blood from the vessels: bleeding is called_____
161	Aima
162	Cele
163	Ectasis
164	Itis
165	malacia
166	megaly
167	Oma
168	Condition, disease, increase Osis
169	Pathy
170	ptosis
171	rhexis
172	ectomy
173	Binding, Fixation – medic_____
174	Suspension or fixation – medical term _____
175	Surgical correction –medical term_____
176	Rrhappy
177	Examination, or inspection – medical term_____
178	ostomy
179	Crushing or friction – medical term _____
180	algia
181	Genic
182	Breaking down or dissolution – medical term _____
183	Deficiency or decrease –medical term_____
184	Aden
185	Aer
186	angio
187	arth
188	blephar
189	card
190	cerebro
191	cephal
192	cerv
193	cheil
194	chondr
195	Cost
196	crani
197	cyso
198	cyl

199	dacry
200	Finger, toe – medical term _____
201	derm
202	encephalic
203	Small Intestine – medical term _____
204	gastr
205	glyco
206	Hem, hamat
207	Hepat
208	hyster
209	leuk
210	lip
211	lith
212	mening
213	my
214	nephr
215	ophthalmic
216	osteo
217	pneum
218	soul
219	pyel
220	pylorus
221	pyo
222	radi
223	spondyl
224	trachea
225	viser
226	ab
227	A, an
228	ad
229	anti
230	bi
231	Com, con, syn
232	Against, opposite – give medical term _____
233	Bad, Difficult – give medical term _____
234	ecto
235	Em; en
236	endo
237	Upon, at, in addition to; give medical term _____
238	Out, away from – give medical term _____

239	Hemi or semi
240	Above, excessive; - give medical term _____
241	Beneath, below, deficiency – give medical term _____
242	inter
243	Next, between – give medical term _____
244	Beside, around, near – give medical term _____
245	Peri
246	Before, in front – give medical term _____
247	pyo
248	Backward, behind, back of – give medical term _____
249	Under, beneath, below – give medical term _____
250	Above, beyond, superior – give medical term _____
251	With, along, together, beside – give medical term _____ Sym
252	toxi
253	trans
254	tri
255	Precisely, in the health or medical field, we understand health care is the service that is provided to a sick or injured person to bring him back to the utmost level of normal health
256	What is the short name for this? Allopathic, Ayurveda, Yoga, Unani, Siddha, and Homeopathic.
257	Expand PHC: Primary Health _____
258	Which service deals with Health education, school health,
259	Secondary and Tertiary care is mostly provided in _____
260	Where you find this Dept. OPD; A/E and IP _____
261	Cancer care is considered as Primary /Secondary or Tertiary.
262	Which department round the clock sees ML cases _____
263	Where Medico-legal register is kept or maintained
264	Where RTA cases are seen first?
265	If collapsing patient visit OPD; where to be sent _____
266	Homicidal, accidental, or suicidal cases are seen in which dept.?
267	Where did a patient send with a non-serious medical problem?
268	Where do you send a patient with heart related problems?
269	Psychiatry problem belongs to which system of the human body?
270	A patient stays overnight is called _____
271	Does OP record need the patient's No. and number? YES or NO
272	Does OP service works 24 hours YES or NO
273	Does the A/E dept. have different wards YES or NO
274	Does ICU belong to A/E dept? YES/NO
275	Routine patients are treated in ICU – YES or NO

276	Neonatal serious patients are treated in general ICU – YES or NO
277	Serious coronary patients are treated in _____
278	Premature ward patient belongs to which specialty
279	Which dept. treats kin problems?
280	Which department treats muscle problems?
281	Which dept. treats broken bones?
282	One who operates eye is called
283	One who operates a patient is called
284	OB &GYN sees male patients – YES or NO
285	Pediatric Surgeon operates adult patients- YES or NO
286	Maintaining OP records in the hospital is required YES or NO
287	All OP patients should have one unique number YES or NO
288	A separate patient number for each specialty is it good? YES or NO
289	Patients visit OPD on given date & time the system is called_
290	Through Master Index, we can find patient records _____
291	How the Master Index is filed
292	The person occupying a ward bed - who stays overnight is called_____
293	Who maintains ward records
294	Who is in charge of the ward: Nurse or Doctor
295	Admitting doctor is responsible for entire patient care! YES or NO
296	Treating doctors is fully responsible for patient care! YES or NO
297	Which dept. the CT scan patient from the ward is sent?
298	Where an inpatient Lab. reports are kept in the ward:
299	When a patient is operated a sample is sent to pathology is called
300	The dept. supplies food to patients is called Dietary! YES or NO
301	OP patient needs hospitalization is routed to the ward thru _____
302	Admitting office should function 24 hours or 12 hours;
303	A patient gone LAMA is considered as discharge YES or NO
304	A dead patient is considered a discharge YES or NO
305	A patient who absconded is considered as discharged YES or NO
306	The arrangement of forms in MRD & Ward is the same. YES or NO
307	Lab, CSSD, Dietary; pharmacy help ward YES or NO
308	The doctor or Nurse is responsible for ward patient record safety!
309	Operation theatre or Operation room is the same are different
310	Where Scrub nurse works
311	Where circulating nurse works
312	Patients are kept in the Recovery room before or after the operation
313	Patient monitored with 24 hrs by doctors and nurses called
314	Which dept. does the Blood, Urine, Stool, Sputum, tests etc.
315	ECG test is done on Brain YES or NO

316	Phlebotomists collect samples of blood, urine, etc. YES or NO
317	Patient record cover should have allergies/HIV etc. YES or NO
318	Blood bank service belongs to which hospital department?
319	Blood transfusion is from one person of another person. YES/NO
320	Blood lost during surgery; need blood transfusion:. YES/NO
321	People suffering from hemophilia or sickle-cell disease may require frequent blood transfusions. YES or NO
322	Study of parts of the body by means of X-rays is called _____Dept.
322	Expand USG
323	Computerized Tomography is done in the Microbiology Dept. YES or NO
324	Magnetic Resonance Image (MRI) test is done in Pathology Dept. YES/NO
325	Mammography is done to know the malignant and hormonal disorders of__.
326	Radiation Therapy or RT is used for treating non-cancer cases: YES or NO
327	_____ therapy works by damaging the DNA of cells
328	_____is deals with the origin, nature, chemistry, effects, and use of drugs.
329	_____ is the one who is dispense drugs, and makeup prescriptions
33	_____ is a book containing a list of drugs, the products, used in medicines
331	Chemotherapy uses those drugs that destroy malignant cells! YES or NO
332	_____ is the study of harmful chemicals and their effects on the body.
333	_____are are given to neutralize the unwanted effects of drugs.
334	An agent that reduces or eliminates sensation, local, spinal or general
335	Drugs that control anxiety is called _____
336	Pain relievers is called _____
337	Drugs that relax and calm nervousness is called _____
338	Chemical substance kill the bacteria, fungi or parasites is called _____
339	Drugs promote motility of the intestine, to excrete the fecal matters _____
340	Drug that prevents the clotting of blood _____
341	Use of electric current in the treatment of motor disorders is called _____
342	The profession that care for disabled and injury are called _____
343	Water is used for the treatment of different conditions is called
344	_____ is rubbing & using of skin, muscles, tendons etc.
345	_____ treatment of injury, deformity by physical methods.
346	_____promotes health and well-being thru occupation.
347	_____ is to reduce disability & optimize the functioning of a person
348	Physical therapy is related to the Digestive system! YES or NO
349	Occupation therapy is related to the Endocrine system! YES or NO
350	Recreation therapy service deals with healthy persons! YES/NO
351	_____ Technician deals with eyes, the vision of humans

352	_____ deals with measuring hearing & sound intensity.
353	_____ machine assesses the hearing & sound intensity of a person.
354	_____ is a graph that records of a person respond to sounds.
355	Speech audiometric is used for taking a person's weight! YES or NO
356	Audiogram records patient's eyesight information! YES or NO
357	Audiometric is used for Liver function tests! YES or NO
358	Public Health is a local level of a country's health system! YES or NO _____
359	_____ is the first point of obtaining health care is called _____
360	PHC provides maternal, child & school health! YES or NO
361	Health Education is mainly on the prevention of diseases! YES or NO
362	PHC ensures a safe healthy school environment is called _____
363	PHC ensures good Environmental Health! YES or NO
364	Occupational health related to the welfare of employees! YES or NO
365	Diet is supplied to the ward patients is called _____
366	Medical Social works in the lab department only! YES or NO
367	Biomedical Engineering is not part of the hospital! YES or NO
368	Biomedical engineering deals with hospital equipment! YES or NO
369	CSSD's services clean lines to the wards! YES or NO
370	CSSD provides sterile equipment to wards & OTs. YES or NO
371	Public Relation communicates between the public and the hospital. YES or NO
372	The public relations (PR) job is to keep the hospital clean & tidy. YES or NO
373	Lab technician is an Allied Healthcare worker: Agree or Disagree
374	Hospital Patient Care Relationship Coordinator is a job to help the patients: YES or NO
375	The medical Transcription job is to prepare bills. YES or NO
376	Medical Secretary's job is to assist doctors and patients. YES or NO
377	Medical Secretary works in the ICU only. YES or NO
378	Some hospitals run without medical records: Agree or Disagree _____
379	MR should have full patient health information; YES or NO
380	MR should contain the patient's timely written information; YES or NO
381	MR should have all investigations reports done: YES or NO
382	Each discharged patient should have a discharge summary: YES or NO
383	The MR the property of the Hospital: YES or NO
384	MR becomes personal when the patient's name is present: YES or NO
385	MRD to initiate and maintain records. YES or NO
386	MRD is not required for big hospitals; YES or NO

387	Which hospital dept. maintain the register of “dead-on-arrival
388	Which department should control medical record forms?
389	All MR forms must have a name & hospital number; YES or NO
390	All verbal orders should be signed by the physician within ____ hours.
391	A provisional diagnosis shall be written at the time of_____.
392	Abbreviations shouldn’t be used in writing diagnoses: YES or NO
393	The Healthcare Delivery system is a must for any country: Agree or Disagree
394	“People forget and records _____.”
395	Medical Record is the property of the _____
396	The content of information in the Med. Rec. belongs to_____
397	_____ is the foremost beneficiary of maintaining record
398	The primary function of a hospital is the care of the sick and _____
399	The MRD is the custodian of the medical records of patients. YES or NO
400	The _Attending Physician is responsible for the completion of record; YES or NO
401	Keeping good records is the responsibility of MRD: YES or NO
402	The performance of health care professionals is measured through_____
403	Impersonal record means the patient’s name is mentioned: YES or NO
404	The_____, suicidal, and homicidal cases are considered MLC.
405	All adults suicidal, accidental, and homicidal to be treated as MLC. YES or NO
406	Central MLC register is kept in the A/E department: YES or NO
407	All MLC registered in the hospital to be informed to _____.
408	Written consent must be obtained from the patient/relative: YES or NO
409	Keeping confidentiality of patient data is MRD's responsibility: YES or NO.
410	In the hospital authorized staff is the ones who treat the patient; YES or NO
411	Med. Rec. and health information are the property of the _____.
412	Only _____ staff has the right to read the contents of any patient’s record.
413	Quality control is done on records to improve patient problems: YES or NO
414	Quantitative analysis of records is the responsibility of MRD: YES or NO
415	There should be an MR committee in all the hospitals; Agree or Disagree
416	Collection of ID data –registration time is not needed: YES or NO
417	Treating doctor is the responsible completion of document: YES or NO
418	Nurses records to be completed by doctors: YES or NO
419	Ward census is prepared by _____ staff
420	MR arrangements at ward & MRD is the same: YES /NO
421	Incomplete records to be completed by _____ Physician
422	Which department does ICD coding?
423	ICD developed by the _____

424	From the time of admission into the ward, till the patient is discharged, the patient file is under the custody of the _____
425	Can any hospital retain ever the other hospital records: YES or NO
426	Twin boys born to a mother should have one or two records
427	Should we give a H. No. to a dead-born child: YES or NO
428	A separate register for cancer cases is required: YES or NO
429	Med. Cert. duplicates copy in the hospital is required? YES or NO
430	MRD is not responsible for collecting OP statistics: YES or NO
431	The number of days a patient stays in the hospital is called
432	Is death is part of discharge: YES or NO
433	Is LAMA patient to be counted as discharge patient: YES or NO
434	To present OP new and old (follow-up) cases: YES or NO
435	MRD to present in the monthly report the No. of OP investigations carried out: YES or NO
436	Investigations were done to be taken in the statistics; YES or NO
437	MRD to collect a number of ML cases treated monthly: YES or NO
438	MRD to present monthly statistics of OP & IP cases: YES or NO
439	Ward Census helps in preparing Bed occupancy rate: YES or NO
440	Disease classification helps in Morbidity information! YES or NO
441	The patient's number of days stay in the hospital is called _____
442	Monthly reports of OP, IP data to be presented: YES or NO
443	MRD taking additional responsibilities is good or bad:
444	Keep longer period records for continuity of care: YES or NO
445	OP records to be kept for ___ yrs. from the last date of treatment.
446	IP records to be kept ___ from the last date of discharge
447	How many hours the Admission office should work in a day
448	A/E department should keep open only for how many hours?
449	MLC register should be placed in _____
450	Hospital number to be on every sheet of Patient Record: YES or NO
451	A provisional diagnosis must be written at the time of _____.
452	Diagnosis will be written in full without the use of _____
453	Med. staff should get NOC from MRD when they leave the Hosp. YES/ NO
454	More than 90 -95% of hospitals use Outpatient Slip/Chit system. YES/NO
455	Specialty clinics maintain Departmental records: YES or NO
456	Safety of ward records is the responsibility of a Doctor YES or NO
457	Source Oriented Med. Records is in use in the majority of hospitals: YES or NO
458	The patient should have only one record for OP,A/E & IP; Agree /Disagree.
459	One Patient; One record and One _____ is right concept.
460	At first visit patient gets an identity card out-patient card with _____

461	Patient Alpha Index Card (size: 5”x 3”) is filed numerically: YES or NO
462	The objective of maintaining the Alpha Index in MRD is to find_____
463	Is it needed for IP; for re-admission to send old record: YES or NO
464	Morbidity data is collected from ICD coded records: YES /NO
465	If hospital statistics show a 5% death rate! If that hospital discharged one thousand cases how many patients died?
466	The right time to collect ward census to be very correct is_____
467	Assembling means arranging records in a _____ order.
468	Incomplete records are checked for_____ in MRD.
469	Deficiency checked records help for patient care: YES or NO
470	Medical Auditing means destroying patient records; YES or NO
471	M.R. Committee ensues good functioning of MRD: YES or NO
472	Who wants medico-legal cases other than hospital staff?
473	M.R. Forms are links between healthcare providers: YES or NO
474	One hospital number can be given to How many patients?
475	Policy means a set of approved rules & regulations: YES or NO
480	MRD need to introduce Policies and Procedures for all sections: YES/ NO
481	Is it vital to train new staff on Policies/Procedures: YES or NO
482	MRD creates a room for doctors to complete records YES or NO
483	IP records to be coded before completion of records. YES or NO
484	An early abortion case belongs to Gynecology or Obstetrics
485	What is the right name for a child getting intensive care?
486	Death record(“Peripheral failure is it underlying cause)YES or NO
487	The standards can be categorized into _____ groups.
488	Establishing a _____vocabulary is a greatest challenge for HIT.
489	SNOMED enables the storage & retrieval of clinical _____
490	LOINC helps in identifying the lab. and clinical results; YES or NO
491	HL7 is related to Hospital Information System (HIS): YES or NO
492	DICOM is the imaging standard in the radiology: YES or NO
493	MML to set standards for medical data in Japan. YES or NO
494	Paper to paperless records; or Manual to _____health records
495	The first known medical record was developed by _____,
496	The EHR is about quality, _____, and efficiency.
497	Electronic and Manual Health records are the same: YES or NO
498	Classification of diseases and operations is not vital for MRD. YES or NO
499	Grouping together _____ entities according to some established criteria.
500	_____ is the process of assigning numbers to medical and health terms.
501	_____ is the process of assigning numbers to disease and procedural terms.
52	Coding is done to know the disease & for statistical tabulation. YES or NO

503	ICD-10 contains _____ volumes
504	Volume 1 - _____ list:
505	Volume _____ - instructional volume
506	Volume _____ - alphabetic index
507	There are _____ chapters in ICD-10 compared to 17 in ICD-9
508	Diagnosis is made without examination and investigations. YES or NO
509	Principal Diagnosis is chiefly responsible for treatment; YES or NO
510	Pathological Diagnosis is made after microscopic examinations: YES /NO
511	Post_____ Diagnosis: based upon findings observed during the operation
512	Only diagnoses that relate to the _____ episode of care need to be coded
513	PHR is a life-long individual for his/her health information. YES or NO
514	PHR has a complete individual health data; can be taken anywhere: YES or NO
515	PHR information does it help to treat physicians: YES or NO
516	The _____ has a complete health information related to patient
517	PHR is also known as "Health _____.
518	The PHR of child is maintained by _____
519	The PHR can be maintained on _____ or Website.
520	PHR besides Allopathic; also other AYUSH information; YES or NO
521	PHR has information taken in different hospitals: YES or NO
522	The PHR is an original or copied duplicate record _____
523	PHR-Patient care Summary comprises all information: YES or NO
524	Child Development form doesn't show height, weight: YES or NO
525	PHR-Immunization record contains child growth data: YES or NO
526	Self-care information is available In PHR or Hospital record
527	In PHR Medication form contains patients weight: YES or NO
528	Hospitalization means patient admitted in the hospital: YES or NO
529	PHR- Ob & Gyn form don't provide Antenatal data: YES or NO
530	PHR maintain by patient and the EHR, maintained by:_____.
531	Hospital_____ can be documentary evidence in the court.
532	All MLC are registered in the _____ department.
533	All MLC are reported to the hospital are to be informed _____,
534	Accidental or Suicidal or homicidal cases are called as _____
535	In MLC terms; Personal When record used with Name & No; YES or NO
536	A _____ has the right to summon patient medical records of patients.
537	Records are to be handled by only _____ as determined by the hospital
538	As an _____ document, patient's permission is not required for research.
539	The central MLC register is kept in _____ department.
540	How many _____ hours a patient can take permission to go home
541	The patient is Discharged when he fails to come within the permitted time:

	Yes/No
542	Date & Time of leaving and returning hospital to be recorded: YES or NO
543	Written Consent of a patient is required for medical examinations: YES/NO
544	Guardian or nearest relative can give consent for children: YES or NO
545	The admission office has to collect General Consent for admitted cases: YES or NO
546	General or Special Consent need for Amputation operation.
547	The nurse is responsible for taking consent for the operation: YES or NO
548	Two doctors with the operating surgeon and the hospital manager are needed to operate to save life when no relative gives consent. YES or NO
549	A patient relative has to sign for a patient going against med. advice: YES or NO
550	Medical records information is not confidential at all. YES or NO
551	Authorized staff is those who are healthcare providers: YES or NO
552	In MLC - inform police without consent of patient: YES or NO
553	Without the permission of the patient B&D informs. can be sent: YES/ NO
554	In Infective cases to notify the PH dept. need the consent of the patient; YES or NO
555	When Court asked a patient record - hospital can refuse: YES or NO
556	Health consumers can be paying or non-paying patients: YES or NO
557	Consumer Protection Act–created consumer council: YES or NO
558	Con. Prot. Act –Patient receiving care from any person is called Service: YES or NO
559	Cons. Act – deficiency means any faults, inadequacy in quality: YES/NO
560	Cons. Act- Negligence means –incompetence & non-keeping records: YES or NO
561	The least credible records are those inconsistent, with the right care. Yes or No
562	MRD should maintain hospital linen, medical drugs, etc. YES or NO
563	Retention of records means how many years records to be kept: YES or NO
564	Research Hospitals can retain records more than the official retention period: YES or NO
565	Preservation of records means protection from insects and termites etc. YES or NO

566	Patient records must not be protected from insects and termites: YES or NO
567	As per the Medical Council of India, IP records are to be retained for _____ years.
568	Patient Document request to be issued within ____ hours (Section 1.3.2).
569	Keep a register of certificates with at least ____ ID mark/sig of the patient (Sec1.3.3)
570	As per M.R. Retention schedule the IP records to be kept ____ years
571	As per the M.R Retention schedule the OP records to be kept ____ years
572	Hospitals can have their own retention policy; if no state laws are present: Yes or No
573	Consumer Protection Act 1986, suggest keep OP records for 2 years & IP for __ yrs.
574	The MLC records to be kept till the case is disposed of by court; YES/NO
575	Court admits records with correctly identified & authenticated: YES or NO
576	Authorship is one who treats the patient & records the information: YES/No
577	Treating doctor is responsible for the accuracy, & totality of the record; YES or NO
578	All patient care treatment entries are not to be signed and dated: YES or NO
579	_____ should not be used for entries where a signature is required by law
580	Electronic signatures are acceptable if permitted by the Govt. YES or NO
581	A ____ signature provides digital assurance that data has not been modified.
582	Authorized abbreviations are only to be used while writing diagnoses. Yes/No
583	In EHR, abbreviations should not be _____ as information is formatted.
584	In a computerized screen, each page must identify patients by name & ____
585	All scanned documents must have the date and time scanned & ____ scanned.
586	All data to be scanned into the record should be made in _____ ink:
587	In HER; an amendment is used when other information is added: YES or NO
588	In HER, the patient views the consent and electronically signs it. YES or NO
589	Hospital maintaining manual & electronic records is called _____.
590	Destroying of old manual records is also known as _____ of records.
591	Accuracy, consistency, and reliability is called as Information _____
592	Policies on against alterations of data, tempering, and loss are needed. YES or NO
593	Health records must be maintained in a way that is legally sound; YES/ NO
594	The word 'Ayurveda' has derived out of the fusion of two separate words- 'Áyu' i.e. life and 'Veda i.e. knowledge. Thus in literal meaning Ayurveda is the _____.
595	The main aim of Indian traditional medicine the term _____ is to

	maintain Good health in a Healthy person and aim to cure the person who is sick. “
596	As per the Indian Tradition of Medicine: the five basic elements of life such as (sky, air, fire, water, and earth are called Panch _____
597	After India became independent, Ayurveda has come up to provide _____ specialized courses of study at the post-graduation level
598	The Unani medicine is also called Unani _____
599	The Siddha system is believed to have evolved from _____ BC.
600	The word " _____ " comes from the Sanskrit word "Yuj" which means "to unite.
601	Studies revealed that Yogic practice improves intelligence and memory: YES or NO
602	Meditation can stabilize emotional changes & prevent abnormal functions: YES or NO
603	Neuropathy is rooted in the healing wisdom of many cultures: Yes or No
604	Neuropathy is a less-cost, drugless, non-invasive therapy for health care: YES or NO
605	“Homeopathy” was introduced by a French Physician: YES or NO
606	Quality standards were first introduced in the _____ States.
607	International Standards Organization was created in 1947 after World War _____
608	Accreditation started in the UK with the formation of the JCAHO in 1951. YES/NO
609	Accreditation of Healthcare Organizations (JCAHO) started in USA in _____.
610	Accreditation programs spread all over the world in the year_____.
611	Do private hospitals need ISO 9000 standards to prove as a certified: YES or NO
612	Accreditation is a self & external valuation to improve the healthcare; YES or NO
613	The objective of accreditation is to ensure required _____ of healthcare
614	JCI was founded in the year 1990 to survey hospitals outside of the _____
615	The Joint Commission International (JCI) was founded in the late _____s.
616	_____Standards is the highest benchmark standard for hospital quality in India.
617	Joint Commission International _____Days _____Surveyors
618	Survey of Requirement for Documentation Review: There are _____; types.
619	A well-organized & efficiently managed _____ is a must for Accreditation
620	The unit record concept is that is one number, one record, and one

	_____.
621	The MR should meet the needs of _____/_____ Accreditation surveyors:
622	Hospitals need to complete a Hospital Survey _____ form after the survey.
623	The JCI/NABH team comprises a physician, _____, and an administrator.
624	Accreditation by NABH means credit for MR professionals' vital role. YES or NO
625	In India, MR manual/electronic is given high importance; YES or NO
626	HIM is initiating and analyzing health information for care: YES or NO
627	HIM collects healthcare data & ensures proper maintenance: YES or NO
628	HIM role is to help hospitals in providing quality care to patients. YES or NO
629	There are _____ quality indicators proposed by NABH in its manual.
630	HIM's a vital role in accreditation with good digital records. YES or No
631	HIM is not qualified to manage information related to health: YES or NO
632	The hospital shall conduct QAP to monitor and evaluate the quality of care. YES or NO
633	The purpose of QAP is not to identify variations from accepted standards; YES or NO
634	The goal of QA is not to achieve the highest standards of patient care: YES or NO
635	_____ types reporting; one is routine as per schedule, and special when required.
636	The Hospital shall take all staff in conducting QAP to get the best result: YES or NO
637	"Richard Thompson" defines quality as the optimal achievable result of each patient. YES or NO
638	Assurance means a guarantee of service that provides in the hospital: YES or NO
639	The risk management plan is not to provide safe care for its patients. YES or NO
640	The QAP is to detect snags; take remedial actions for better patient care: YES or NO
641	The Hospital is not to conduct ongoing QAP to evaluate the quality of care. YES or NO
642	The goal of QA is to achieve the highest standards of patient care: YES or NO
643	A written QAP should be agreed by the medical and governing body. YES or NO

644	Clinical performance is to be reviewed regularly for better patient care. YES or NO
645	It is the duty of all hospital staff to provide the best possible health care. YES or NO
646	QA special reporting requires an urgent solution to solve the problem. YES or NO
647	Infection control, UR, safety, and patient satisfaction is QA objective: YES or NO
648	QAP has to monitor all aspects of care including staff performance. YES/NO
649	The Medical Staff, with others, help review the quality of MR keeping. YES or NO
650	Periodic evaluation of MRS will ensure better functioning of MRD: YES or NO
651	Evaluation results are reported to the proper QA committee at least __ every year.
652	Patient _____ survey by the QAP committee every 6 months needs to do be done.
653	The risk management program is to know the hospital's risk of liability. YES or NO
654	The goals & objectives of QA. Planning is the implementation of QAP. YES or NO
655	Utilization review is related to measuring the services and facilities. YES or NO
656	The medical Audit Committee deals with all non-medical-related issues. YES or NO
657	The Med. Audit program ensures not to keep professional standards. YES or NO
658	_____ is a central body around him/her all healthcare professional's revolved:
659	A _____ is any person who receives medical attention, care, or <u>treatment</u>
660	An _____ is a person who is not hospitalized overnight but who visits a <u>hospital</u> .
661	_____ Surgeries are done to patients without admitting into ward.
662	A person is "admitted" to the hospital and stays overnight, is called _____
663	Hospital _____ are measuring for the quantitative service rendered.
664	QA committee evaluates the services with established _____
665	More than two-thirds of the total expenditure is incurred on _____.

666	Spending more on health- does not mean getting _____ health.
667	Good communication skills are a great weapon for any individual: YES or NO
668	Keep learning regularly makes you a _____ entity that will help in succeeding.
669	It is a necessity that every manager needs to improve Inter-_____skills
670	Self-confidence will relieve _____ and pressures.
671	The _____person is generally an experienced one.
672	Those with the character of _____; are mostly very successful in interviews & etc.
673	Brainstorming is to elicit innovative ideas from the varied background staff. Yes/No
674	Consensus building is-not a good effort to seek a unanimous agreement: Yes or No
675	A _____building approach allows groups to reach a unanimous agreement.
676	A talented manager's message is to the _____ to listen and act accordingly.
677	Coaching, Orienting, _____ (COT)
678	A good manager's priority is to help everyone be on the same _____or level.
679	_____presentation is to ensure that message invites the attention of everyone.
680	Empathy: This is a special characteristic one should have to deal with _____.
681	The object of the feedback on any topic or issue is to get the frank_____
682	_____is the ability to steer their employees toward the achievement of goals.
683	Valuable leadership -the ability to _____, inspire and communicate effectively.
684	_____is guide, direct, & motivate to those around you to help reach a goal.
685	_____is the most significant element in communication skills
686	_____skills are very vital for leaders to lead from the front on schedule time
687	Non-verbal communication message will be effective if one's body language is synchronized with the communication: YES or NO
688	_____ : is also near to empathy and compassion.
689	Widely practiced communication in all most all organizations is _____/_____

690	____or ____most economic and time saving mechanism and extremely successful.
691	_____communication is basically used by everyone in one context or the other.
692	The _____message could be to a single or an entire organization staff.
693	_____communication is to carry out an action or agree with an idea.
694	Persuasion is used do to sell products, recruit members to increase _____.
695	A strong _____skills employee can influence others to perform well and succeed.
696	_____commitment abilities will lead to gaining long-run relationships and self-esteem
697	_____ is a great tool for bosses to appreciate their staff for organization growth.
698	_____ is the recipe for success when you're trying to be a better manager.
699	"Give _____ and take respect" is an old adage"
700	_____ is a secret weapon or tool to win the war.
701	_____ is a proven path for the roll-out of technical skills in your organization
702	Face to ____talking helps in seeing body language, instead of the phone call,
703	_____skills that are essential elements for effective written communication.
704	The simple & clearly _____document reflects your views & personality
705	Ensure employees understand the vision, mission, and _____ of the organization.
706	Communicate constantly the "What is" behind the business plan" Yes or No
707	Repeat, _____ repeat; to be built-in-mechanism to achieve success & job well done.
708	What an organization expects, end _____, not the process,
709	Communication skills are the most vital skills for any manager to succeed. YES or NO
710	A _____is "a person who influences a group towards the achievement of a goal".
711	A leader goes _____and leads by example so that others are motivated to follow.
712	To be a _____, a person must have a deep-rooted commitment to the goal.
713	A _____who steers the institute to a very high level with good harmony.

714	_____will always needed to make the right decisions and manage dilemmas.
715	Leaders must respond _____ to failure and take responsibility.
716	_____to make productive organizations despite lot of pressure & competition.
717	To master _____development need talent, skills, techniques and experience.
718	Whether to manage “people” or “lead” people.is a dilemma for leaders? YES or NO
719	Senior Leader must have Strategic Knowledge Low or High
720	Mid-Level Leaders must have Strategic Knowledge of High or Moderate
721	Technicians Strategic Knowledge High or Low
722	Senior Leaders must have Technical Knowledge Low or High
723	Mid-Level Leaders need Technical-Knowledge High or Moderate
724	Technicians' Technical Knowledge High or Low
725	The humble leader allows people to explain things to them. YES or NO
726	_____ look for every opportunity to learn something new that helps them
727	The vast majority of leadership training focuses primarily on skills and _____.
728	A leader can achieve greatness only when both outside and _____qualities
729	Training that focuses on character, values, and principles helps bring _____
730	We believe that sound _____ has the greatest impact on leadership success
731	Leaders attract people that are in _____with their core thoughts and being.
732	"Trust is the emotional _____that binds followers and leaders together." - Warren Bennis and Bert Nanus.
733	Trust is the foundation for every successful _____'s accomplishments
734	When people don't _____ the leader, they won't follow very far.
735	Do what you say you're going to do. - Who has to follow this?
736	Show people, you trust them if you want them to trust you. - Who has to follow this?
737	No matter what role you play in your company, becoming a more effective _____ will help you get ahead in your position.
738	Avoid offering solutions if the speaker is expressing a problem. Just _____
739	Listen Fully. A good _____ looks interested in what the speaker is

	saying
740	_____ having an employee or customer stand in front of your desk.
741	Body language speaks _____.
742	The most important point to be observed here is Leadership Talk doesn't drive purpose. Purpose drives the _____.
743	There is one and only one purpose of the Leadership Talk: that's to _____ people to be your cause leaders in meeting the challenges you face.
744	Leadership Talks can be formal ways of communicating but mostly they are _____.
745	As per David Hakala, the definition of leadership is "One's ability to get others to willingly follow the top _____ leadership qualities".
746	Don't do anything until I tell you- is High Efficiency or Low Efficiency
747	Do it. Is it High Efficiency or Low Efficiency
748	_____ is an internal state or condition (described as a need, desire),
749	_____ Influence of needs and desires on the direction of behavior
750	_____ comes from words beginning with "mo." Motion, motor,
751	_____ is inducing motivation in others in a specific way towards goals
752	The ability to instill "want to" in others, to motivate them, marks the difference between average leaders and _____ leaders.
753	Motivated people lead to leadership to achieve set goals. YES or NO
754	Here are _____ "laws" of motivation that you must adhere to if you want to consistently motivate people to get great results?
755	Motivation is a physical action- What number of 4 laws of motivation?
756	Motivation is their choice – What number of 4 laws of motivation?
757	Emotion drives motivation – What number of 4 laws of motivation?
758	Face-to-face speech is generally the best way to motivate people- What number of 4 laws of motivation?
759	Your job is to organize your work so as to minimize surprises and _____.
760	Define the worry situation clearly in writing - fully _____ of all problems can be solved just by clearly defining them..”
761	Remember, “Accurate diagnosis is _____ the cure.
762	Worry is constant _____:
763	Curiosity _____ Starts Your Personal Brilliance
764	_____ helps you clarify problems, ideas, and situations.
765	“The Questioning curiosity has its own reason for existing.” Said Albert Einstein. YES or NO
766	You learn more because you have a _____ to know more
767	When you put past judgments aside, you come up with some of your most _____ ideas.
768	In Neutralizing Situations causing worry - Clarity Is Everything – what step

	number?
769	In Neutralizing Situations causing worry – Determine the worst – what is the step number? _____
770	In Neutralizing Situations causing worry – Be Willing To Have It So – what is the step number? _____
771	In Neutralizing Situations causing worry – Take Action– what is the step number?
772	Remember, worry is merely a sustained form of _____ caused by indecision.
773	Capability development is a long-term activity, where both how to choose “the right capabilities” and how to _____ the capabilities right” are important.
774	The quality of most business capabilities decreases in reaching the decline stage of the lifecycle, but project-related capabilities are _____.
775	Capabilities and their development techniques are very much practice-_____, especially development techniques
776	Research indicates that it is more important to choose the right capabilities and worry less about their _____-specific issues
777	Many HIMs have the knowledge, skills, and capabilities but very few HIMs have the ability to effectively _____ and achieve the set goals
778	For an organization to deliver _____ performance it must first understand what its strategic objectives are
779	HIM field cannot be _____, and its capabilities need to upgrade time-to-time to move parallel with the healthcare delivery system
780	HIM field cannot be static, and its capabilities need to upgrade time-to-time to move _____ with the healthcare delivery system
781	The HIM professional role is very _____ than one may think
782	Without HIM department the hospital is not on the_____.
783	“Medical Records are the Mother of Information; it can Make or _____ the healthcare institution”. Dr. Mogli’s adage.
784	Hospital statistics play a vital role in a national HI system: YES or NO
785	The MRD provides clinical data concerning patients but also furnishes data on other activities in the hospital. YES or NO
786	Hospital statistics can be defined as a _____ of numbers that present facts for use in a health care facility.
787	Statistics of new, follow-up, and: documented according to nationality, sex, clinical service or unit, and age group- belong to which unit of the hospital?
788	Daily census reports of admitted and discharged cases of general and private wards –belong to which unit of the hospital?
789	MLC statistics are collected from which department of the hospital?
790	Labor room beds–should include in the bed compliment: YES or NO

791	Nurses' residence Beds-to be taken in the bed compliment: YES or NO
792	_____Health Organization recommended the age statistical table
793	International Classification of Diseases is recommended by _____
794	The primary source of patient statistics is from Patient or _____Records
795	The birth/ death register information is primary or secondary source__
796	Coding is assigning numbers to _____ and procedural terms.
797	Classification of diseases helps in preparing morbidity data. YES or NO
798	Dr. Mogli's ready reckoner for counting Hospital days is used for _____
799	Dr. Mogli's Ready Reckoner serves - One or Two or Three purposes
800	When no computer does Dr. Mogli's ready reckoner helpful: YES or NO
801	Change of paper records into electronic records through of_____ method.
802	Dr. Mogli defines "A _____ health record is one where some records are maintained manually and some records are automated.
803	Hybrid is the combination of manual and electronic- partially or fully. Yes/No
804	The transition from an a_____ -based health record to an electronic health record (EHR) environment must be addressed effectively and efficiently
805	Vision & Strategic plan is needed for electronic health records. YES or NO
806	Bar code ID of patients helps in _____ manual records easily.
807	_____ code ID of patients helps in tracking manual records easily.
808	In 1960's the H.I. information systems were administrative applications. YES or NO
809	In the early 1970's _____ -computers were available
810	In the mid-1980's, the Microcomputer or PC was developed. YES or NO
811	The 1990's marked the evolution and widespread use of _____
812	Electronic Health Records can be used by any place by authorized staff. YES or NO
813	_____technology helps in capturing and integrating diagnostic and radiological images from various devices (e.g., X-ray, MRI, (CT) scan).
814	_____an optical scanner is used to electronically capture information encoded on a product.
815	The health care information generally initiates from the Medical _____dept.,
816	The master patient index (MPI) will be arranged and filled numerically. Yes /No
817	The invention of the LAN and WAN had made these individual computers to be linked with the help of the central _____.
818	_____ analysis is a necessary first step in the design and

	implementation of any health information system
819	The collection of the data can be done in various methods such as Interviewing, Questionnaires and _____.
820	One of the most useful tools in systems analysis is the_____..
821	_____ design is the creative, technical process of converting information system requirements into a detailed set of specifications for a system
822	The _____ designing is the process of preparing the required format of the forms to capture the data and to present reports.
823	The design of the forms should be standard order and user_____, so that capturing and keying of the data by the end users will he made easy.
824	Data _____Diagram is a graphic tool that analyzes the movement of data through a system, manual or automated, including the process, storing of data.
825	Data flow diagrams are the_____ tool from other components are developed.
826	The _____ charts are hierarchical input process output charts.
827	After designing the needs of the SW, the selection of _____ has to be taken.
828	The software will _____ the requirement of the hardware
829	System testing is the critical process for the _____ development
830	The objective of the system testing is to prove that no _____ in the programs
831	The security is an important element to avoid _____ user access.
832	The final aspect of system implementation is the completion of all system documentation, both procedural and machine-related. YES or NO
833	Documentation should not be a continuous process carried out during all phases of system project. YES or NO
834	The system _____ phase is one of the important tasks to be performed after the implementation phase.
835	Information systems require both _____ and unanticipated maintenance once they are working.
836	A medical record consists of _____ (coded) and unstructured (such as free narrative text) data.
837	The “one to one” relationship that existed in the past between a physician and a patient is being replaced by a “one to _____ relationship.”
838	_____ is the integration of two well-established disciplines, medicine and telecommunication
839	_____ which offers the options for image transmission including non-standard image formats, very high resolution, error-free, and short time;

840	Health maintenance is divided into _____ health 'and group health maintenance
841	The computerized medical record should be able to retrieve by _____, or number or from a pick list.
842	EHR system must be easy to install, easy to learn; and it should be _____ friendly
843	_____ is SW that allows you to create, store, organize, edit, and retrieve patient health records.
844	EHR's were originally known as Computerized Patient _____.
845	An HER is a longitudinal record of all care provided to the patient. Yes or No
846	The first known Med. Rec., was developed by _____. in the fifth century B.C.
847	Who prescribes the following TWO goals of medical records: 1. Accurately reflect the course of disease 2. Indicate probable cause of disease
848	The first EHR's began to appear in the _____ s
849	President _____ in 2004 called for EHRs for most Americans within 10 years to address the rising cost, poor quality and safety record of the U.S. HC system.
850	The healthcare system faces many challenges, including rapidly rising _____.
851	The EHR is about _____, safety, and efficiency
852	Strategic planning enables to reduce costs, improve service, enhance the _____ of care, and achieve the strategic objectives set in an organization.
853	Strategic planning has 2 major components: A.is ____ & the B. Implementation.
854	Gartner, Inc. Consulting proposes one of the most widely recognized descriptions of a _____ to an EHR.
855	Name the creator of 5 generations; Collector, Documenter, Helper, Partner, and Mentor.
856	The Collector generation is also called _____-generation EHR's
857	The Documenter generation is also called _____-generation EHR's
858	The Helper generation is also called _____-generation EHR's
859	The Partner generation is also called as _____-generation
860	The Mentor generation is also known as Fifth-generation EHR's
861	Strategic planning for IT involves four major areas: 1, Infrastructure; 2. Clinical System; 3. Managed Care; 4. _____ systems.
862	Earlier EHR readiness assessment surveys were conducted to ascertain the views of _____ and nursing staff.

863	National EHR adoption is “a feat of _____, skill and finance.”
864	HER systems hold the promise to address the two challenges to the U.S. healthcare system: controlling costs and improving _____.
865	E.H.R holds the promise to address the two most crucial challenges to the U.S. healthcare system: controlling _____ and improving quality.
866	In Challenges and Solutions in EH Record adoption - The EHR adoption may face challenges in _____ phases. which are listed:
867	“Evaluating EHR systems” related to which phase?
868	“Completing EHR implementation” related to which phase?
869	“Fully using EHR capabilities to improve clinical care and outcomes” related to which phase?
870	Clinical data are _____ and contextual, but computers have been designed primarily to manipulate discrete, factual data.
871	Clinical data are textual and _____, but computers have been designed primarily to manipulate discrete, factual data.
872	Computers are very good at storing large volumes of data and performing _____ formulas or clearly defined retrieval functions
873	.Computers, however, do not have the human capability of “_____ or making associations or assumptions on their own.
874	A major consideration for any provider adopting EHR’s is _____.
875	Many have questioned whether the EHR can truly pay for _____.
876	Health Level Seven, Inc. (HL7) defined the first EHR functional requirement standard in February _____.
877	The HL7 standard outlines important features and functions that should be contained in an _____ system
878	The _____ standard functional model has proven to be a powerful tool for the Certification Commission for Health Information Technology (CCHIT),
879	The _____ standard for EHR systems has been extremely valuable for CCHIT's development of certification criteria.
880	In EHR functional requirements specifications that are classified into _____ headings.
881	The functional requirement is that the lab results are _____ electronically into the EHR with flags for abnormal results.
882	The purpose of this checklist is to look more specifically at what should be addressed in an HIM department preparing for migration to the _____.
883	Is the Administration requirements is EHR functional requirement specifications - YES or NO
884	Is the Clinical Documentation requirements is EHR functional requirement specifications - YES or NO
885	Is the Data Export Requirements is EHR functional requirement

	specifications - YES or NO
886	Is the Data Import Requirements is EHR functional requirement specifications - YES or NO
887	Is the Clinical Decision Support System requirements is EHR functional requirement specifications - YES or NO
888	Is the Prescribing requirements is EHR functional requirement specifications - YES or NO
889	Is the Orders Management requirements is EHR functional requirement specifications - YES or NO
890	Is the Reporting requirements is EHR functional requirement specifications - YES or NO
891	Is the Result Management requirements is EHR functional requirement specifications - YES or NO
892	Is the Privacy Protection and security requirements is EHR functional requirement specifications - YES or NO
893	The technologies often included within requirements are _____ to generalize to any potential EHR implementation.
894	A recent practice brief noted that “the decision to go _____ involves having enough confidence in the electronic system to let go of the paper system
895	HER ensures that the system handles amendments, corrections, authentication, backups, downtime, confidentiality, and printouts. YES or NO
896	The purpose of the checklist is to look more specifically at _____ should be addressed in an HIM department preparing for migration to the EHR.
897	Determine who needs to be involved in planning the EHR migration and evaluating its impact on the HIM department. YES or NO
898	_____ the organizational and proposed system processes for amendments, corrections, authentication, backups, and downtime.
899	_____ other sites using the system selected, if possible to know more on installation.
900	Based on the organizational project plan for implementing the EHR system, develop a comprehensive HIM department project plan of action. YES or NO
901	The HIM Dept. must plan & include every step needed in the migration to the proposed system. YES or NO
902	When developing the _____, consider the rollout plan for the organization.
903	_____ executive-level; support that, approve, and fund for the migration project
904	Develop a communication plan that keeps staff and org. leaders updated

	with the status of HIM department's plan for migration to the EHR. YES or NO
905	_____ a staffing plan for the implementation of the EHR
906	No need to develop an education plan on new or changed processes for both the HIM dept., and other organizational staff and physicians. Yes or No
907	Develop _____, processes, and procedures for the migration. Processes from paper-based documents to the electronic format
908	Review and _____ the definition of the organization's legal health record policy
909	Evaluate privacy and confidentiality of the selected system for compliance with organizational and HIM department policies and _____.
910	Any SW company offers a vast array of services, for surveying the condition of existing IT & telecommunications infrastructure.
911	On-site assessment of IT & telecommunications infrastructure profiles includes the development potential –YES or NO
912	IT & telecommunications infrastructure profiles include: Inspection and inventory of existing equipment, SW and telecommunications infrastructure – YES or NO
913	IT & telecommunications infrastructure profiles include a Review of equipment, SW and telecommunications lease and license agreements – YES or NO
914	The infrastructure includes the backup hardware, _____, and management systems required to run a specific application or applications (in this case the EHR).
915	As the foundation of the HER, IT infrastructure has been raised to a new _____ l of importance and organizational visibility.
916	All physicians should become comfortable using _____ in their office well before an EMR system is installed.
917	A critical first step in establishing any clinical information system is to build reliable _____ infrastructures that move towards computerization.
918	Is Standard Vocabulary is part of developing the EHER system – YES or NO
919	_____ is a standard promoted as a means of permitting easier communications between computer systems
920	COBRA is a new standard for handling objects used by software programs sharing a common environment. YES or NO
921	Is Infrastructure standard is a part of EH Records – YES or NO
922	Is Hardware Infrastructure is part of Electronic Health Records – YES or NO
923	A needs assessment can be defined as a systematic process to develop an accurate understanding of the strengths and _____ of a business

	process.
924	Needs assessment is the foundation of a successful _____ implementation.
925	Selection of an EHR whether it is developed in-house or purchased from a _____.
926	All systems that support more than a single user require a _____ to allow different users to access the features, functions, and data in the EHR.
927	WAN means Wide Area _____ Work –in computer language.
928	To implement an EHR effectively, operational leaders and implementation teams will need to understand your organization’s current _____
929	As the EHR SW is upgraded, workflows must be reviewed- YES or NO
930	An experienced physician can be named as “Chairperson Medical Informatics” and can be paired with Chief Information Officer. Do you agree – YES or NO
931	EHRs capable of uniting disparate data from many sources are created in the presentation of clinical information to users. YES or NO
932	Most often the EHR implementation teams usually do not include a member trained in usability engineering- YES or NO
933	Many factors contribute to an EHR’s usability. YES or NO
934	The user interface must not use a clear design to provide easy access to complex information. YES or NO
935	Simplicity is at the heart of clarity. Do you agree: YES or NO
936	Duplicating features add significant overhead, to both the scanning process and the comprehension process.- YES or NO
937	A hard stop is a software feature that prevents the user from going on until he performs a required action (e.g., entering a billing code before closing an office visit note). – YES or NO
938	A soft stop requires only that the user acknowledge a recommendation, typically with a single mouse click, before going on. YES or NO
939	Proper color use can make presenting results easier and less error-prone. YES or NO
940	Self-paced learning is effective for learners and efficient for both the learner and the organization. YES or NO
941	The EHR should be built to provide clinical decision support (CDS) as effectively as your car does. YES or NO
942	Every potential EHR user type (clinical and non-clinical) needs to have its rights and responsibilities spelled out. YES or NO
043	Integration of ancillary applications is essential to the success of the EHR’s usability and reliability. YES or NO
044	Integrated application testing ensures that new and existing software functions perform well together. YES or NO

945	Phased execution is the stepwise introduction of EHR functionality through a series of phases, each with its own analysis, training, and go-live schedule YES or NO
946	When a person is sick or injured, the team that rescue is the medical, _____ paramedical and other allied health workers.
947	Hospital services include primary, _____, and tertiary care.
948	The hospital services include _____, preventive, and others.
949	_____ profession is the most disciplined and dedicated to taking care of the sick, and injured that has been their primary motto.
950	The _____ is a highly disciplined profession; the demand is high than supply; hence, shortage in healthcare institutions.
951	The major goal of _____ personnel is to serve the patient comprehensively to the best of their ability.
952	_____ staff never decline many non-nursing functions which they carry out as part of their routine work without complaining.
953	From the time a patient is admitted till he/she is discharged the major responsibility rests with the in-charge _____.
954	The ward is considered as a “_____ of the Hospital” as such, the nursing staff posted to the ward are well-trained professionals,
955	The Head _____ as the custodian of the ward is responsible for the daily procedures to be followed.
956	_____ responsibility is critical and the techniques of rendering nursing care have become more complex.
957	The nurse spends more time in recording nursing documents which help in _____ of the specific case and also in the treatment of other cases.
958	It is imperative for the _____ staff to make use of electronic health records by understanding the system and its utility.
959	It is imperative for the nursing staff to make use of _____ health records by understanding the mechanism of the system and its utility
960	The Sr. nursing professionals of patient care delivery systems have to take a lead in effective use of _____ technologies
961	Nursing managers to acquire knowledge worker _____ for best use of computerized record system
962	The reputation of the hospital depends mainly on three important departments such as Outpatient, Emergency and _____.
963	Each nursing station will have a _____ screen that will provide hourly information of jobs to be performed by the duty nurse.
964	“The _____ is the center of the Medical Universe, around which all our works involve and towards which all our efforts tend”.
965	The blueprint for the development of medical records included _____ phases, in 39 chapter “MR Role in Healthcare delivery in 21 st century”

966	The first phase _____ the existing status of medical records
967	The second phase suggested appropriate _____ and procedures, trained personnel, and organized the medical record departments.
968	The third phase was dedicated to the _____ of electronic health records,
969	Most of the hospitals were functioning without _____ Departments, and their functions were carried out by Medical, Nursing, and Paramedical Staff.
970	In some hospitals, _____ were so poorly organized that Patient face problem.
971	Med. Rec. plays a vital role in healthcare delivery and great value for the patient, _____, hospital, research, education, and national and international organizations..
972	Each medical record reveals information, always centered on a _____ (who may be a man, woman, or child).
973	The records are valuable to _____; physicians; health care; institutions; research teams; the teaching program; national health & int. agencies;
974	An _____) can be defined as a longitudinal medical record that includes all health information about an individual throughout his or her lifetime.
975	The major value of _____ is the availability of electronically stored information online for access to the network authorized at any station
976	“Physician treat _____ and HIM treat hospital for controlling healthcare cost”
977	“Physician treat patient and HIM treat _____ for controlling healthcare cost”
978	The HIM professionals of Developing Countries (DC) are working with the least _____, pay, and esteem, and thereby the progress is badly hampered.
979	The Healthcare industry is plagued by _____ costs and public pressure to contain expenditures.
980	The increased costs could be attributed to manifold reasons including inefficiency, inflation, and _____.
981	Modification of HIM traditional education to the corporate _____ syllabus to generate innovative leaders.
982	Modification of HIM traditional education to the corporate competing syllabus to generate innovate _____.
983	HIM move from a conventional _____ zone to a threatening challenging role in controlling the healthcare cost of the hospital.
984	HIM move from a conventional safe zone to a threatening challenging role in controlling the healthcare _____ of the hospital
985	Establish a central HIM department at the national level in the MOH to

	oversee the HIM programs in the _____.
986	HIM personal move from conventional safe zone to threatening _____ role
987	It is HIM's endeavor to show healthcare providers how they can save time, and effort, reduce _____ costs, and sustain the improved quality of care.
988	The HIM to be recognized as an important professional, the HIM raise _____ by accepting through their excellent digital information leadership responsibilities.
989	HC delivery system can be briefly classified into _____ major parts:
990	Preventive medicine will play very _____ role by imparting healthy living habits in the population.
991	Secondary care hospitals will provide care for all non-major surgical cases of all specialties in the next- 10 to 20 years. True or False:
992	All major surgical cases of all specialties including cancer will be located under one building in the next 10 to 20 years. True /False.
993	_____care hospital is the most sophisticated and well-equipped infrastructure to deal with screened cases by highly trained experts.
994	In the course of the next few years, hospitals, health centers, and clinics will undergo a complete transformation. YES or NO
995	In the next few years, Mobile nursing units and video conferencing will be very common to help patients. Do you agree or disagree
996	The electronic chip will be used to administer the exact dosage on schedule and to observe the feedback from the patient. Yes or No
997	In the future, ATM types of health centers for investigations, diagnostic, consultation, prescriptions, and delivery of medicines will be operational in each urban and sub-urban locality. YES or NO
998	Diagnosis will be more accurate, due to new sources of information through the Internet. YES or NO
999	There would be _____ categories of HIM professionals in HIM field.
1000	3 types of HIM personnel are Managerial; b. Supervisory and c. Operational & each with a different level of education. YES or NO.
1001	The HIM while dealing with healthcare data identifies the pattern & trends of diseases; that need to identify concurrently. True of False.
1002	HIM services are used in clinical, medical education, research, public health, legal, financial services also for insurance. YES or NO
1003	Keeping one's own personal health record help in constant access to his /her health information over the course of time. YES or NO
1004	HIM personnel can maintain the PHR of certain catchment areas and be the liaison between the patient and health institutions. YES or NO
1005	Healthcare will undergo transformation through Artificial Intelligence (AI), Machine Learning (ML), and Robotics. YES or NO

1006	The HIM personnel, besides the hospitals, work for accounting firms, insurance, SW vendors, Govt. agencies, & others. YES or NO
1007	HI Manager is an expert who has knowledge of medical, administrative, & legal issues related to HCD. Agree or Disagree
1008	HIM has the expertise to provide a consultation and advice on efficient management of health, institutions. TRUE or FALSE
1009	HIM has to revolve around the patient as entire healthcare organizations exist because of the patient. YES or NO
1010	The HIM will succeed if he has passion and commitment to the field through persistent, able, and kind leadership. Agree or Disagree
1011	In Developing Countries; there is no HIM leadership at the national level to oversee the progress of the HIM field. True or False
1012	The author found that with a central HIM dept. at the ministry level to oversee the HIM work; has well organized HIM depts. YES or NO
1013	Due to lack of leadership at the top; lack of educational facilities & well-organized MRDs hindered professional progress. YES or NO
1014	The lack of standardized MR forms, missing investigation reports, & records made Doctors less interested in completion. YES or NO
1015	Hospitals faith in keeping registers than patient records. YES or NO
1016	HIM National Association is formed to improve HIM work standards and Professionals proficiency. AGREE or DISAGREE
1017	Involving the Govt. including Central & State in the activities of HIM education, work, and national association, Required or Not
1018	Establish a central HIM dept. in the MOH to be headed by a senior HIM to oversee the HIM progress in the county. YES or NO
1019	Setting of national standards for MR /HIM is very essential. YES or NO
1020	Develop HIM policies and procedures including, the budget, staff pattern, etc., for MRD. YES or NO
1021	The HIM education and training will change in the next 10 to 20 years due to many issues. AGREE or DISAGREE
1022	In the next 20 years; the preset methods of rendering healthcare services will have a changed in minimizing the hospitals and also the number of inpatient beds. YES or NO
1023	Healthcare Transformation through Technology e.g., Artificial Intelligence (AI), Machine Learning (ML), and robotics will take place. AGREE or DISAGREE
1024	Due to Technology, the present tasks of HIM will diminish and need a revision of HIM education to meet the new way of keeping paperless records. YES or NO
1025	The mock-up MR laboratory is essential to train students with real-life expérience in areas of maintaining and managent MR / HIM. YES or NO
1026	In 1913; It was felt that to elevate standards of surgery by standardization of

	hospitals; an important role played by records was recognized hospital standardization. YES or NO
1027	Mrs. Grace Whiting Myers of USA was the First President of Record Librarians. YES or NO
1028	On 11-11-1928, the Association of Record Librarians of North America was formed “To elevate the standards of clinical records in hospitals, dispensaries, and other distinctly medical institutions; elected the first president_____
1029	In 1934, _____elected to work in hospital administration and was appointed to a new hospital in Manchester, England.
1030	Dr.Skrinjar-Nerima of the WHO and Elsie Royle Mansell presented the first two papers in the ____ International Business meeting held in Stockholm, Sweden from 27-31 May 1968.
1031	Dr. _____ of WHO in her presentation strongly encouraged international cooperation between medical record personnel.
1032	After Mrs. Myers of USA, Elsie Royle Mansell of UK, Dr. Skrinjar, of WHO, the Prof. _____ of Australia- Great Educationist, since 1972 fully dedicated and selfless service to IFHIMA till date
1033	After Mrs. Myers of USA, Elsie Royle Mansell of UK, Dr. Skrinjar, of WHO, the Prof. Phyllis Watson of Australia- _____ of USA–Great Consultant- helped many DC professionals; since 1976 fully dedicated and selfless service to IFHIMA till date
1034	After Mrs. Myers of USA, Elsie Royle Mansell of UK, Dr. Skrinjar, of WHO, Prof. Phyllis Watson of Australia, Carol Lewis of USA; _____ of India (Served 9 DC nations since 1959 onwards known as “Father of Medical Records of India and the Middle East”, Great organizer, educationist and actively with IFHIMA from 1976 participating and presenting papers in all the Congress till date.
1035	Role of HIM shouldn’t be the same, instead, observe “Change or Perish” to acquire the latest knowledge, skills, and a positive attitude by all the global HIM professionals to render their services much more efficiently to Healthcare Delivery System. YES or NO
1036	The main objective of IFHIMA is to promote HIM in all the _____ including adopting Int. HIM standards, exchanging HIM educational requirements and training programs and promoting and implementing effective technology e.g. electronic health records.
1037	Patient safety can be defined “as the condition of being _____, freedom from danger or hazard or risk or injury and adverse effects, exemption from hurt, or loss.
1038	Patient care is affected because today’s healthcare is delivered in a pressurized and fast-moving environment, involving a vast array of technology and, daily, many individual decisions and judgments by

	healthcare professional staff. TRUE or FALSE
1039	Patient safety is affected by inadequate information, illegible entries, lack or change of information, and misinterpretations. YES or NO
1040	The rising rate of litigation in recent years was another vital stimulus for raising awareness of the problem of patient safety. YES or NO
1041	There are human errors, like getting the wrong drug or dosage despite being highly trained with the control system this happens. Agree /Disagree
1042	The WHO informs that DC countries account for around ____% of all reported: fake and substandard drugs as part of patient safety.
1043	IT plays a vital role in reducing errors, improving care; dipping duplication, and increasing time for patient care. YES or NO
1044	In 2003, the Federal Drug Administration, proposed drug _____ code regulations to reduce medical errors related to prescriptions and medication administration.
1045	Wound Infection is a Hospital-acquired infection –Agree or Disagree
1046	Post-operative sepsis is due to Operative and Post-Operative Complications. YES or NO
1047	Which Annexure deals with Definitions of Medical Specialties
1048	Which Annexure deals with “Electronic Health Records Terminology”
1049	Which Annexure deals with “Terms and Definitions used in Healthcare Management
1050	Which Annexure deals with “Standards Abbreviations with single meanings”.

XIII **Answers to Brainstorming Questions** (Chapter –XII)

S. No.	Answer	S. No.	Answer	S. No.	Answer	S. No.	Answer
1	Nucleus	2	Trillion	3	Meiosis	4	Intracellular
5	Extracellular	6	Cells	7	4	8	Tissues
9	Viscera	10	Organ	11	Organs	12	System
13	Cardiac	14	Bones	15	206	16	Spinal Cord
17	Tongue	18	Testes	19	Plasma	20	Platelets
21	AB	22	Spleen	23	Lungs	24	Digestive
25	Small	26	Large Intestine	27	Pancreas	28	Urinary
29	Reproductive	30	Reproductive	31	Cranial	32	Thoracic
33	Abdominal	34	Pelvic	35	Spinal	36	Anterior
37	Posterior	38	Deep	39	Superficial	40	Inferior
41	Superior	42	Lateral	43	Supine	44	Prone
45	Afferent	46	Efferent	47	Long	48	Wrist
49	Sternum	50	Vertebra	51	8	52	14
53	6	54	1	55	51	56	26
57	7	58	12	59	5	60	1
61	1	62	Upper Limb	63	Upper	64	Lower
65	Hands	66	Phalanges	67	Lower	68	Leg
69	Lower	70	Lower	71	Cell	72	Muscles
73	Nerves	74	Muscles	75	Organs	76	System
77	Musculoskeletal	78	Bones	79	206	80	Skull
81	Trunk	82	Cranial	83	26	84	Coccyx
85	Arteries	86	Heart	87	Heart	88	Pulmonary
89	Plasma	90	Erythrocytes	91	Leukocytes	92	Four
93	Plasma	94	Vaccination	95	10 billion	96	Neurons
97	Cerebrum	98	Brain	99	Salivary	100	Esophagus
101	GI	102	Small Intestine	103	Appendix	104	Liver
105	Pancreas	106	Thyroid	107	Expiration	108	Diaphragm

109	Pharynx	110	Lungs	111	Three	112	Diaphragm
113	Tongue	114	Nose	115	Urinary	116	Uterus
117	Male	118	Ovaries	119	Testes	120	Placenta
121	Oncology	122	Psychiatry	123	Greek & Latin	124	Arabic
125	Anglo Saxon	126	Modern German	127	Albus or Leukos	128	Melan or Niger
129	Erythros	130	Flavous	131	Blue	132	Green
133	Brown	134	Golden	135	Half	136	First
137	Two	138	Four	139	Three	140	Sex or Hex
141	Quinque	142	Hepta	143	Non	144	Octa
145	End	146	Before	147	Carditis	148	Gastritis
149	Cardiomegaly	150	Myopathy	151	Tonsillectomy	152	Arthroplasy
153	Bronchoscopy	154	Cystoscopy	155	Thoracotomy	156	Renal Pain
157	Pathogenic	158	Haemolysis	159	Lymphocytosis	160	Haemorrhage
161	Blood	162	Hernia	163	Expansion	164	Inflammation
165	Softening	166	Enlargement	167	Tumor	168	Oasis
169	Disease	170	Falling	171	Rupture	172	Excision
173	Desis	174	Pexy	175	Plasty	176	Suture
177	Scopy	178	Incision into	179	Tripsy	180	Pain
181	Origin	182	Lysis	183	Penia	184	Gland
185	Air	186	Vessel	187	Joint	188	Eyelid
189	Heart	190	Brain	191	Head	192	Neck
193	Lip	194	Cartilage	195	Rib	196	Skull
197	Bladder	198	Cell	199	Tear	200	Dactyl
201	Skin	202	Brain	203	Enter	204	Stomach
205	Sweet	206	Blood	207	Liver	208	Uterus
209	White	210	Fat	211	Stone	212	Membrane
213	Muscle	214	Kidney	215	Eye	216	Bone
217	Lung or Air	218	Mind	219	Pelvis	220	Gatekeeper
221	Pus	222	Ray	223	Vertebra	224	Neck
225	Organ	226	Away from	227	Without, not	228	Near, toward
229	Against	230	Two	231	Congenital	232	Contra

233	Dys	234	Ex, Out	235	In	236	Within
237	Epi	238	Ex	239	Half	240	Hyper
241	Hypo	242	Between	243	Meta	244	Para, per
245	Around, about	246	Pre	247	Pus	248	Retro
249	Sub	250	Supra	251	Sym	252	Poison
253	Across, over	254	Three	255	Healthcare	256	AYUSH
257	Care / Centre	258	PHC	259	Hospitals	260	Hospitals
261	Tertiary	262	A/E	263	A/E Dept.	264	A/E Dept.
265	A/E	266	A/E	267	OP	268	Cardiology
269	Nervous	270	IP	271	YES	272	NO
273	NO	274	NO	275	NO	276	NO
277	ICCU	278	Paediatrics	279	Dermatology	280	Orthopaedics
281	Orthopaedics	282	Ophthalmologist	283	Surgeon	284	NO
285	NO	286	YES	287	YES	288	NO
289	Appointment	290	Number	291	Alphabetically	292	Inpatient
293	Nurse	294	Nurse	295	YES	296	YES
297	Radiolog	298	Patient record	299	Biopsy	300	Yes
301	Admitting Office	302	24 hours	303	YES	304	YES
305	YES	306	NO	307	YES	308	Nurse
309	Same	310	OT	311	OT	312	After
313	ICU/ICCU	314	Laboratory	315	No	316	YES
317	YES	318	Laboratory	319	YES	320	YES
321	YES	322	Radiology	323	Ultrasonograph y	324	NO
325	Breast	326	No	327	Radiation	328	Pharmacolog y
329	Pharmacist	330	Pharmacopeia	331	YES	332	Toxicology
333	Antidotes	334	Anaesthetic	335	Tranquilizers	336	Analgesic
337	Sedative	338	Antibiotics	339	Laxative	340	Heparin
341	Electrotherapy	342	Physical Therapy	343	Hydrotherapy	344	Message
345	Physiotherapy	346	OT	347	Rehabilitation	348	NO
349	NO	350	NO	351	Optometry	352	Audiometric
353	Audiometer	354	Audiogram	355	NO	356	NO

357	NO	358	YES	359	Primary Health	360	YES
361	YES	362	School Health	363	YES	364	YES
365	Dietician	366	No	367	NO	368	YES
369	NO	370	YES	371	YES	372	NO
373	Agree	374	YES	375	NO	376	YES
377	NO	378	Disagree	379	YES	380	YES
381	YES	382	YES	383	YES	384	YES
385	YES	386	NO	387	A/E Dept.	388	MRD
389	YES	390	24	391	Admission	392	YES
393	Agree	394	Remember	395	Hospital	396	Patient
397	Patient	398	Injured	399	YES	400	YES
401	YES	402	Medical Record	403	NO	404	Accident
405	YES	406	YES	407	Police	408	YES
409	YES	410	YES	411	Hospital	412	Authorized
413	YES	414	YES	415	Agree	416	No
417	YES	418	NO	419	Nursing	420	NO
421	Treating	422	MRD	423	WHO	424	Ward Nurse
425	NO	426	Two	427	NO	428	YES
429	YES	430	NO	431	LOS	432	YES
433	YES	434	YES	435	YES	436	YES
437	YES	438	YES	439	YES	440	YES
441	LOS	442	YES	443	Good	444	YES
445	3	446	5	447	24 hours	448	24 hours
449	A/E Dept.	450	YES	451	Admission	452	Abbreviations
453	YES	454	YES	455	YES	456	NO
457	YES	458	Agree	459	Number	460	Hospital No.
461	NO	462	Hospital Number	463	YES	464	YES
465	50	466	Midnight	467	Standard	468	Deficiency
469	YES	470	NO	471	YES	472	Court of Law
473	YES	474	One Patient only	475	YES	476	Number not used
477	Number not used	478	Number not used	479	Number not used	480	YES

481	YES	482	YES	483	NO	484	Gynaecology
485	NICU	486	NO	487	Three	488	Standard
489	Information	490	YES	491	YES	492	YES
493	YES	494	Electronic	495	Hippocrates	496	Safety
497	YES	498	NO	499	Morbid	500	Coding
501	Coding	502	YES	503	3	504	Tabular
505	2	506	3	507	21	508	No
509	YES	510	YES	511	Operative	512	Current
513	YES	514	YES	515	YES	516	PHR
517	Passbook	518	Parent/ guardian	519	Computer	520	YES
521	YES	522	Duplicate	523	YES	524	NO
525	NO	526	PHR	527	NO	528	YES
529	NO	530	Hospital	531	Medical Records	532	A/E
533	Police	534	MLC	535	YES	536	Court
537	Authorized	538	Impersonal	539	A/E	540	24
541	YES	542	YES	543	YES	544	YES
545	YES	546	Special	547	NO	548	YES
549	YES	550	NO	551	YES	552	YES
553	YES	554	NO	555	NO	556	YES
557	YES	558	NO	559	YES	560	YES
561	YES	562	NO	563	YES	564	YES
565	YES	566	NO	567	3	568	72
569	One	570	5	571	3	572	YES
573	3	574	YES	575	YES	576	YES
577	YES	578	NO	579	Initial	580	YES
581	Digital	582	YES	583	Written	584	Number
585	Date	586	Black	587	YES	588	YES
589	Hybrid	590	Purging	591	Integrity	592	YES
593	YES	594	Science of life	595	Ayurveda	596	Mahabhut
597	22	598	Tibb	599	4000	600	Yoga
601	YES	602	YES	603	YES	604	YES

605	NO	606	United	607	ISO	608	NO
609	1951	610	1990	611	YES	612	YES
613	Quality	614	USA	615	1990	616	NABH
617	4, 3,	618	Two	619	MRD	620	Patient
621	JCI/NABH	622	Feedback	623	Nurse	624	YES
625	NO	626	YES	627	YES	628	YES
629	64	630	YES	631	NO	632	YES
633	NO	634	NO	635	Two	636	YES
637	YES	638	YES	639	NO	640	YES
641	No	642	YES	643	YES	644	YES
645	YES	646	YES	647	YES	648	YES
649	YES	650	YES	651	One	652	Satisfaction
653	YES	654	YES	655	YES	656	NO
657	NO	658	Patient	659	Patient	660	Outpatient
661	Day-care	662	Inpatient	663	Statistics	664	Standards
665	Manpower	666	Better	667	YES	668	Masterly
669	Personal	670	Tension	671	Confident	672	Confidence
673	YES	674	NO	675	Consensus	676	Audience
677	Training	678	Page	679	Emotional	680	Others or All
681	Opinion	682	Leadership	683	Delegate	684	Leadership
685	Listening	686	Motivational	687	YES	688	Open-mind
689	Oral/verbal	690	Oral/verbal	691	Personalized	692	Personalized
693	Persuasion	694	Productivity	695	Persuasion	696	Positive
697	Recognition	698	Recognition	699	Respect	700	Respect
701	Roadmap	702	Face	703	Writing	704	Writing
705	Goals	706	YES	707	Repeat	708	Results
709	YES	710	Leader	711	First	712	Leader
713	Leader	714	Leader	715	Courageously	716	Leaders
717	Leadership	718	YES	719	High	720	Moderate
721	Low	722	Low	723	Moderate	724	High
725	YES	726	Leaders	727	Behaviours	728	Inside
729	Leadership	730	Character	731	Harmony	732	Glue

733	Leader	734	Trust	735	Leader	736	Leader
737	Listener	738	Listen	739	Listener	740	Avoid
741	Volumes	742	Leadership Talk	743	Motivate	744	Informal
745	Ten	746	Low-Efficiency	747	High-Efficiency	748	Motivation
749	Motivation	750	Motivation	751	Motivator	752	Great
753	YES	754	Four	755	One	756	Two
757	Three	758	Four	759	Problems	760	Half
761	Half	762	Fear	763	Jump	764	Curiosity
765	YES	766	Desire	767	Innovative	768	One
769	Two	770	Three	771	Four	772	Fear
773	Develop	774	Improving	775	Oriented	776	Development
777	Execute	778	Superior	779	Static	780	Parallel
781	Vital	782	Wheels	783	Break	784	Yes
785	Yes	786	Collection	787	Outpatient	788	Inpatient
789	A/E or ER	790	NO	791	NO	792	World
793	WHO	794	Medical	795	Secondary	796	Disease
797	YES	798	LOS	799	Two	800	YES
801	Hybrid	802	Hybrid	803	YES	804	Paper
805	YES	806	Tracking	807	Bar	808	YES
809	Mini	810	YES	811	Internet	812	YES
813	PACS	814	Bar coding	815	Record	816	No
817	Server	818	System	819	Meetings	820	Flow-chart
821	System	822	Form	823	Friendly	824	Flow
825	Central	826	HIPO	827	Hardware	828	Decide
829	Program	830	Error or Bugs	831	Unauthorized	832	YES
833	NO	834	Evaluation	835	Scheduled	836	Strctured
837	Many	838	Telemedicine	839	Tele-radiology	840	Individual
841	Name	842	User	843	EHR	844	Records
845	YES	846	Hippocrates	847	Hippocrates	848	1960s
849	George W Bush	850	Costs	851	Quality	852	Quality
853	Formulation	854	Pathway	855	Gartner	856	First
857	Second	858	Third	859	Fourth	860	Fifth

861	Business	862	Physician	863	Culture	864	Quality
865	Costs	866	6	867	2	868	4
869	6	870	Textual	871	Contextual	872	Mathematica I
873	Thinking	874	Cost	875	Itself	876	2007
877	EHR	878	EHR	879	HL7	880	10
881	Populated/Import.	882	EHR	883	YES	884	YES
885	YES	886	YES	887	YES	888	YES
889	YES	890	YES	891	YES	892	YES
893	Difficult	894	Paperless	895	YES	896	What
897	YES	898	Document/Record	899	Visit	900	YES
901	YES	802	Plan	903	Decide	904	YES
905	Develop	906	NO	907	Policies	908	Revise
909	Procedures	910	Vast	911	YES	912	YES
913	YES	914	Software	915	Level	916	Computers
917	Computing	918	YES	919	Health Level-7	920	YES
921	YES	922	YES	923	Weakness	924	EHR
925	Vendor	926	LAN	927	Network	928	Workflow
929	YES	930	YES	931	YES	932	YES
933	YES	934	NO	935	YES	936	YES
937	YES	938	YES	939	YES	940	YES
941	YES	942	YES	943	YES	944	YES
945	YES	946	Nursing	947	Secondary	948	Curative
949	Nursing	950	Nursing	951	Nursing	952	Nursing
953	Nurse	954	Window	955	Nurse	956	Nursing
957	Diagnosis	958	Nursing	959	Electronic	960	Elcetric
961	Skills	962	Inpatient	963	Master	964	Patient
965	Three	966	Surveyed	967	System	968	Execution
969	Medical Record	970	MRD's	971	Physician	972	Patient
973	Patient	974	EHR	975	EHR	976	Patient
977	Hospital	978	Recognition	979	Increasing	980	Duplication
981	Competing	982	Leaders	983	Safe	984	Cost

985	Country	986	Challengng	987	Operating	988	Revenue or Income
989	Three	990	Vital	991	TRUE	992	TRUE
993	Tertiary	994	YES	995	Agree	996	YES
997	YES	998	YES	999	Three	1000	YES
1001	TRUE	1002	Yes	1003	YES	1004	YES
1005	YES	1006	YES	1007	Agree	1008	TRUE
1009	YES	1010	Agree	1011	TRUE	1012	YES
1013	YES	1014	YES	1015	YES	1016	Agree
1017	Required	1018	YES	1019	YES	1020	YES
1021	Agree	1022	YES	1023	Agree	1024	YES
1025	YES	1026	YES	1027	YES	1028	Mrs. Grace Myers
1029	Elsie R. Mansell	1030	Fifth	1031	Skrinjar	1032	Phyllis Watson
1033	Carol Lewis	1034	Prof. Dr. Mogli	1035	YES	1036	Countries
1037	Safe	1038	TRUE	1039	YES	1040	YES
1041	Agree	1042	77	1043	YES	1044	BAR
1045	Agree	1046	YES	1047	Annexure-I	1048	Annexure-II
1049	Annexure-III	1050	Annexure IV				

XIV	Healthcare Delivery and Management
S. No	Question
1	What is the Public Health Care System?
2	What is Public Health Service?
3	What is Disease Management
4	What is Health?
5	What is Healthcare?
6	What is Healthcare Management?
7	Where Healthcare is Provided?
8	What is Healthcare Delivery?
9	What is Healthcare Delivery System?
10	What is Primary Health Care (PHC)?
11	What is Secondary Health Care?
12	What is Tertiary Health Care?
13	What services does the Hospital Provide?
14	Who are Healthcare providers?
15	What do you mean by Curative Healthcare?
16	What do you mean by Preventive Healthcare?
17	What do you mean by health Promotion?
18	What is Palliative Care
19	What does it mean when someone is in palliative care?
20	What is the meaning of Geriatrics?
21	What is Gerontology?
22	What is the meaning of Bariatric?

1 What is the Public Healthcare System? The Public Healthcare system across nations is a conglomeration of all organized activities that prevent diseases such as infections caused due to viruses, bacteria, and so on, prolong life, and promote the health and efficiency of its people.

2. What is Public health Service? Public health services include health centres and hospitals run by the government. These centres are linked together to cover both rural and urban areas. The village-level health centres have a nurse and a village health worker who is both trained in dealing with common illnesses.

3. What is Disease Management: In order to identify the health problems including the prevalence of diseases and other health hazards which affect people's health need to be an alert mechanism to ensure that health care is delivered systematically on a scientific and evidence-based to the needy at the right place, by right personnel, by right methods, for right persons and at right time.

4. What is Health? Health is a state of complete physical, mental, social, emotional, and spiritual well-being, not merely the absence of disease or infirmity.

5. What is Healthcare? Healthcare is the improvement of health via the prevention, diagnosis, treatment, amelioration, or cure of disease, illness, injury, and other physical and mental impairments in people. Health care is delivered by health professionals and allied

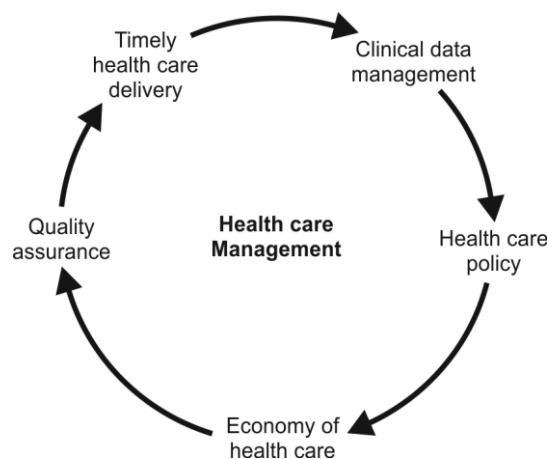
health fields. Or the maintaining and restoration of health by the treatment and prevention of disease especially by trained and licensed professionals (as in medicine, dentistry, clinical psychology, and public health).

6. What is Healthcare Management? Health care management is the administration and management of a health care facility, such as a hospital or clinic. The health care manager is responsible for the day-to-day operations of a health care facility. Hospital Administrator is generally in charge of healthcare management oversees the day-to-day operations of the facility. This individual also acts as a spokesperson when providing information to the media. Health care management encompasses the efforts involved in planning, directing, and coordinating nonclinical activities within health care systems, organizations, and networks. This is a much focused branch of management that requires specific knowledge of health care operations and technology along with soft skills such as the ability to motivate team members, collaborate with multiple stakeholders, and proactively implement needed changes.

Health care management duties include: The responsibilities of health care managers and administrators vary depending on the type of health care setting and the size of the organization, but some of the most common include: In addition to the following: communication; team work; flexibility; stress management, team management and decision making is part of the management responsibility.

- Developing organizational goals and objectives
- Recruiting, training, and supervising medical staff
- Ensuring compliance with patient privacy laws and other pertinent federal, state, and local regulations
- Creating work schedules
- Managing health informatics, including electronic health records (EHRs)
- Monitoring and/or managing facility finances and budgets
- Communicating with medical staff, department heads, investors, and/or governing boards
- Identifying ways to improve health care services and increase operational efficiency
- Health care management skills

Fig. 2.1: Health care management cycle showing clinical data management, policy, economy, quality assurance, and timely health care delivery



7. Where Health Care is provided? Health care is provided in primary, secondary and tertiary including rehabilitative and healthcare facilities which fall into different categories: allopathic, homeopathic, Ayurveda, Unani, etc. We are concerned with allopathic

8. What is Healthcare Delivery? Healthcare delivery forms the most visible function of the health system, both to patients and the general public. It concentrates on patient flows as well as the organization and delivery of all services dealing with the diagnosis and treatment of disease, or the promotion, maintenance, and restoration of health.

9. What is Healthcare Delivery System? A healthcare delivery system is an organization that provides resources and treatments that help people when they are sick or injured and helps them stay healthy through preventive care.

10. What is Primary Health Care (PHC)? The WHO defined primary health care (PHC) as the principal vehicle for the delivery of health care at the most local level of a country's health system. To be precise, the main activities of PHC include health education, school health, environmental health, maternal and child health, control of communicable and non-communicable diseases, community participation, eye, ear, oral health, diabetes, hypertension, promotion of proper nutrition (Protein Energy Malnutrition (PEM), etc.

11. What is Secondary Health Care? Secondary and Tertiary care is mostly provided by hospitals of varied sizes and specialties. They are mostly in urban semi-urban areas.

12. What is Tertiary Health Care? Tertiary hospitals are exclusively super-specialty hospitals for example; cancer, ophthalmology, ENT, Cardiac thoracic, gastroenterology, neurology, endocrinology, etc.

13. What services does the Hospital Provide? The hospital services include outpatient, emergency, and inpatient that encompass medical, nursing, paramedics, and other allied health and support services. Secondary healthcare is generally provided in varied sizes of hospitals, which are normally, located in urban towns and cities with most of the medical, surgical, obstetrics, gyn. and paediatrics services with or without super specialty facilities.

14. Who are Healthcare Providers? The medical, nursing, and allied healthcare professionals who provide healthcare to patients in hospitals, and Health care is provided 24/7 throughout the year to deal with all types of healthcare problems by varied health institutions to sick and injured of all varieties of cases – ranging from suffering from varieties of diseases, could be medical, surgical, social, psychological or any other ailment that needs medical attention to get back to a normal healthy life.

15. What do you mean by Curative Healthcare? Curative healthcare is the opposite of preventive healthcare. This form focuses on curing a disease or promoting recovery from an impairment, injury, or illness. The intent is to completely resolve any illness and bring the patient back to the form of health prior to the illness.

16. What do you mean by Preventive Healthcare? Preventive care helps detect or prevent serious diseases and medical problems before they can become major. The routine and annual check-ups of health care include; Immunizations and flu shots; screenings, and patient counselling to prevent illnesses, diseases, or other health problems.

17. What do you mean by health Promotion? Health promotion is the process of enabling people to increase control over and improve their health. It moves beyond a focus on individual behaviour towards a wide range of social and environmental interventions.

18. What is Palliative Care? Palliative care is specialized medical care for people living with a serious illness, such as cancer or heart failure. Patients in palliative care may receive medical care for their symptoms, or palliative care, along with treatment intended to cure their serious illness.

19. What does it mean when someone is in palliative care? Care is rendered for the terminally ill and their families, especially that provided by an organized health service.

20. What is the meaning of Geriatric? A branch of medicine that deals with the problems and diseases of old age and aging people compares gerontology, an aged person.

21. What is Gerontology? Gerontology studies human maturation and development in populations as they relate to psychosocial challenges related to the processes of aging. An example of gerontology is a social worker who works specifically with an elderly population.

22. What is the meaning of Bariatric? The field of bariatric focuses on and treats those who have obesity to promote weight loss and increase overall health with diet, and exercise, bariatric means “relating to or specializing in the treatment of obesity.”

XV Hospital Services	
S. No	Question
1	What is a Hospital? Or Define Hospital as per Dr. Mogli's Definition?
2	What is Laboratory Services?
3	What is Phlebotomy?
4	What is Blood Bank?
5	What is Blood Transfusion Unit?
6	What are Radiology Services?
7	What is Pharmacy?
8	Who is Pharmacist?
9	What is Pharmacology?
10	What is Psychiatry?
11	What is Psychology?
12	Who is Child Psychologist?
13	What is Physical Therapy?
14	What is Occupational Therapy?
15	What is Rehabilitation Service?
16	What is Optometry?
17	What is Audiometry?
18	What is Audiometer?
19	What is Nutrition?
20	What is Dietetics Department?
21	What is Occupational Health Safety?
22	What is Medical Social Work?
23	What is Biomedical Engineering Service?
24	What is Central Sterile Service Department (CSSD)?

1. What is a Hospital? Prof. Dr. Mogli defines "Hospital is an institution suitably located, constructed, organized, managed with required and qualified human resource to supply scientifically, economically efficiently and un-hindered, all or any recognized part of the complex requirements for the prevention, diagnosis and treatment of physical mental and medical aspect of social illness of sick and injured with functioning facilities for training new employees in all required specialties including medical, nursing, paramedical and allied professionals, technical, and economic fields essential to render required health services with well-maintained patient health records; manually or electronically to reflect exactly the work carried out; at par with international standards that are prescribed by all accredited health agencies engaged in providing best possible healthcare to needy by protecting and security of personal data from unauthorized and providing accurate, complete, timely and relevant data to legal and other recognized authorities."

2. What is Laboratory Services? The Laboratory service include Pathology, Microbiology, Biochemistry, Hematology, and Serology; helps with diagnostic investigations like Blood, Urine, Stool, Sputum, ECG, etc. tests. This module maintains information about the types of investigation departments, names of tests, diagnostic centers, and orders to send orders status and reports received. The physician will send the order or request when the test is required for the diagnosis of a patient with a sample. The request may be sent through mail or fax or by a person (patient). The physician has to choose the name of a Diagnostic center, the Name

of the investigation department (e.g., Pathology or Serology), and the name of the test (Blood, Urine, etc.) to send the orders along with the patient information and urgency of the tests also. This module will help the physician's office, and people to maintain the status of the movement of requests and results of the report. There are different types of status, they are 1. Sent, 2. Under process, 3. Report received 4. Seen, and 5. Not seen.

The report may be sent in a physical format or a document by mail. After receiving the report from the diagnostic centers, physician office people will scan the reports and store in a document along with the patient UPI and date for further purposes, or if the report is sent in a document,

3. What is Phlebotomy? Phlebotomy is the act of drawing or removing blood from the circulatory system through a cut (incision) or puncture in order to obtain a sample for analysis and diagnosis. Phlebotomy is also done as part of the patient's treatment for certain blood disorders. In this process that physician office personnel (Nurses) collect the required samples of blood, urine, etc. from the patient and send the samples to diagnostic centers for testing. In such cases, patients needn't be present at diagnostic centers. This system also maintains the information about the samples collected like the type of samples collected, No. of samples, the quantity of the samples, the Date on which samples were collected, and the Name of the person who collected samples from the patient. The following samples may be collected from the patients

4. What is Blood Bank? A blood bank is a centre where blood gathered as a result of blood donation is stored and preserved for later use in blood transfusion. The term "blood bank" typically refers to a division of a hospital where the storage of blood products occurs and where proper testing is performed (to reduce the risk of transfusion-related adverse events). The main function of a blood bank is to save lives by providing safe blood components for patients who need them. However, blood banks also conduct research studies on blood diseases and improve screening methods for blood donors. Additionally, they work to prevent blood loss during surgery by providing solutions such as blood substitutes. Blood is one of the most important components of life. Almost any animal that possesses a circulatory system has blood. From an evolutionary perspective, blood was speculated to have risen from a type of cell that was responsible for phagocytosis and nutrition.

5. What is Blood Transfusion Unit? Blood transfusion is the process of transferring blood or blood-based products from one person into the circulatory system of another person. Blood transfusions can be life-saving in some situations, such as massive blood loss due to injury or trauma, or can be used to replace blood lost during surgery. Blood transfusions may also be used to treat severe anemia or thrombocytopenia caused by a blood disease. People suffering from hemophilia or sickle-cell disease may require frequent blood transfusions. Early transfusions used Whole Blood, but the modern medical practice is to use only components of the blood.

6. What are Radiology Services? The science dealing with X-rays and other high-energy radiation, especially the use of such radiation for the diagnosis and treatment of disease is called radiology/radiation therapy service. The Radiology module helps the physicians to send requests and to get the reports for investigations like X-Ray, CT scans, MRIs, Ultrasounds, etc. This module helps the physicians to maintain information about the names of tests, diagnostic centers, orders sent orders status and reports received. The physician will prescribe the radiology order and ask the office staff or nurse to send the order to the

diagnostic center. Request (order) may be sent through mail or fax or by a person (patient). The physician has to choose the name of a diagnostic center name, test name, and patient information to send the requests for investigations.

7. What is Pharmacy? Pharmacy is the clinical health science that links medical science with chemistry and it is charged with the discovery production, disposal, safe and effective use, and control of medications and drugs. The practice of pharmacy requires excellent knowledge of drugs, their mechanism of action, side effects, interaction, mobility, and toxicity. **Pharmacy:** a shop or hospital dispensary where medicinal drugs are prepared or sold. A pharmacy is a place of preparation and dispensing of medicines or drugs or ointments to needy patients. There are five types of pharmacies that also create and distribute medication. Hospital pharmacies provide drugs for patients who are getting inpatient and outpatient services in the facility such as 1. Clinical Pharmacy. 2. Research Pharmacy. 3. Regulatory Pharmacy. 4. Compounding and 5. Infusion- Pharmacy.

8. Who is Pharmacist? Pharmacists dispense prescription medication along with key information, such as side effects, contraindications with other medicines, and a range of other concerns. They also work with customers through their physicians' dosage and usage instructions to ensure medications are safely and effectively consumed. The basic duty of a pharmacist is to check prescriptions from physicians before dispensing the medication to the patients to ensure that the patients don't receive the wrong drugs or take them.

9. What is Pharmacology? The pharmacology is study of the origin, chemistry, and uses of drugs and their effects on the body. Pharmacology is the scientific study of the effects of drugs and chemicals on living organisms where a drug can be broadly defined as any chemical substance, natural or synthetic, which affects a biological system

10. What is Psychiatry? Psychiatry is the branch of medicine focused on the diagnosis, treatment, and prevention of mental, emotional, and behavioral disorders. A psychiatrist is a medical doctor (an M.D. or D.O.) Examples of mental health problems psychiatrists deal with include bipolar disorder, depression, anxiety disorder, personality disorder, panic disorder, post-traumatic stress disorder, and schizophrenia. They also handle drug and substance abuse, addiction and dependence.

11. What is Psychology? Psychology is the scientific study of the mind and behavior. Psychologists are actively involved in studying and understanding mental processes, brain functions, and behavior. The field of psychology is considered a "Hub Science" with strong connections to the medical sciences, social sciences, and education. Behavioral Neuroscience encompasses Factors influencing the plasticity of the brain and behavior through development and into adulthood; Hippocampal biology and function; Stress and the brain; Neurogenesis and brain plasticity across the life span; Sex-related differences in brain function; Endocrine and immune regulation of brain and behavior; The neurobiology of cognitive control. And **Clinical Psychology includes** The treatment of mood and personality disorders using cognitive behavioral therapies; Biobehavioral responses to cancer diagnosis and treatment; Testing and dissemination of psychological treatments for cancer patients; Psychological and behavioral adaptation to chronic health problems; Effects of exercise on psychological and cognitive functioning; Neuroplasticity in healthy aging and neurological disorders; Mindfulness and cognitive functioning in older adults.

12. Who is Child Psychologist? Those who are specialized in Child Psychology are called “Child Psychologist”

13. What is Physical Therapy? Physical therapy is the profession that uses knowledge and skills, in rendering care for individuals, disabled by disease and injury, the primary focus is on the functional restoration, of patients, affected with skeletal neuromuscular, cardiovascular, and pulmonary disorders. Designing and fitting artificial parts or limbs and rehabilitating them by a treatment process to help physically handicapped individuals to make maximal use of residual capacities, and to enable them to obtain optimal satisfaction and usefulness, in terms of themselves, their families, and their community. Physical therapy (also known as physiotherapy) is a healthcare profession that provides treatment to individuals in order to develop, maintain and restore maximum movement and function throughout life. This includes providing treatment in circumstances where movement and function are threatened by aging, injury, disease, or environmental factors.

14. What is Occupational Therapy? Occupational therapy (OT) is often abbreviated as OT, (but in surgical terms OT is considered as Operation Theater). The World Federation of Occupational Therapists defines occupational therapy as a profession concerned with promoting health and well-being through occupation. Occupational therapy has been described as addressing the “skills for the job of living” necessary for “living life to its fullest.” Occupational therapy draws from the fields of medicine, psychology, sociology, anthropology, ethnography, architecture, and many other disciplines in developing its knowledge base. A new discipline of occupational science has been developed to enhance the evidence base of the profession. Occupational therapists work with individuals, families, groups, and communities to facilitate health and well-being through engagement or re-engagement in occupation. Occupational therapists are becoming increasingly involved in addressing the impact of social, political, and environmental factors that contribute to exclusion and occupational deficiencies. Through this profession, much-handicapped personnel have gained the skills that made them to be independent although for some is with limited activities, nevertheless, proved handy in their day-to-day life.

15. What is Rehabilitation Service? In recent years, opinion has been moving in the direction of encouraging patients to undertake controlled activity and rely less on passive forms of treatment. The planning of Rehabilitation Services should take account of this change of emphasis. Not just the cure of the illness or injury, but the restoration of the greatest possible degree of function should be the goal of doctors, nurses, physiotherapists, occupational therapists, and indeed, all who minister professionally to the needs of the patient. Physical medicine and rehabilitation is a medical specialty concerned with the diagnosis and treatment of certain muscular-skeletal defects and neuromuscular diseases. It is organized to provide continued specialized treatment of a variety of prolonged, often reversible physical and mental disabilities. Rehabilitative medicine encompasses fields such as physiotherapy occupational therapy, speech and hearing therapy, bracing and prosthetics, and pulmonary medicine.

16. What is Optometry? Optometry is a healthcare profession concerned with eyes and related structures, as well as vision, visual systems, and vision information processing in humans. Optometrists and optometry-related organizations interact with governmental agencies, other healthcare professionals, and the community to deliver eye and vision care. Optometry is one of three eye care professions, the others being ophthalmology (which

is a branch of surgery) and orthoptics (a sub-specialty of ophthalmology primarily dealing with strabismus).

17. What is Audiometry? Audiometric is a branch of audiology and the science of measuring hearing acuity for variations in sound intensity and pitch and for tonal purity, involving thresholds and differing frequencies. Audiometric tests determine a patient's hearing levels with the help of an audiometer. It may also measure the ability to discriminate between different sound intensities, recognize pitch, or distinguish speech from background noise. Audiometric tests are used to diagnose hearing loss or disease of the ear, with the use of an audiogram. Hence, the Audiometric can be defined as the quantitative assessment of a person's hearing ability, especially by means of an audiometer.

18. What is Audiometer? An audiometer may be portable or stationary. The most reliable evaluations are conducted with the patient in one sound-proof room and the audiologist in another sound-treated room using a stationary audiometer that has been calibrated by a professional. Calibration assures the validity of the evaluation. The audiologist presents tones through the audiometer either at ear level or through speakers. When a tone is presented at ear level, it comes through earphones (a headset with TDK earmuffs or earphones that insert into each ear canal) or a bone conduction oscillator. When tones are presented sound field, speakers are placed approximately 3 feet from each ear to assure equal balance of the presentation.

19. What is Nutrition? The object of this department is to provide adequate nutrition counseling, prevent and eliminate nutrition-related diseases, and detect Protein Energy Malnutrition (PEM) cases among children below five years of age. Educating the people and directing them to a healthy lifestyle, disease free, and encouraging them to adopt properly balanced diet, and timely eating habits. Diet forms should be standardized for prescribing diet regimes for patients/clients. Patient/client follow-ups are required to effectively follow the diet regime.

20. What is Dietetics Department? A dietician is a person with recognized qualifications in nutrition and dietetics who applies the science of nutrition to the feeding and education of groups of people and individuals in health and disease. The duties of a dietician are Planning and supervising; the preparation of therapeutic diets for individuals or groups in hospitals and institutions. Ensure that the preparation of food is according to dietetic principles. Performs duties related to nutrition programs. Dietician is responsible for food purchasing on behalf of the organization.

21. What is Occupational Health Safety? Occupational health and safety (OHS) also commonly referred to as occupational safety and health (OSH) or workplace health and safety (WHS) is an area concerned with protecting the safety, health, and welfare of people engaged in work or employment. The goals of occupational safety and health programs include fostering a safe and healthy work environment. Occupational health deals with all aspects of occupations and is concerned with safety and has a strong focus on primary prevention of hazards. The legal reasons for OHS practices relate to the preventive, punitive, and compensatory effects of laws that protect workers' safety and health. OHS can also reduce employee injury and illness-related costs, including medical care, sick leave, and disability benefit costs.

22. What is Medical Social Work? Social work is both a profession and social science. It involves the application of social theory and research methods to study and improve the lives of people, groups, and societies. Social work is a profession committed to the pursuit of social justice, to the enhancement of the quality of life, and to the development of the full potential of each individual, group, and community in society. It seeks to simultaneously address and resolve social issues at every level of society and economic status, but especially among the poor and sick. Medical Social workers are concerned with the social problems of patients, their causes, their solutions, and their human impacts. They work closely with individuals, families, groups, organizations, and communities.

23. What is Biomedical Engineering Service? Biomedical technology management is also known as Biomed, biomedical engineering, biomedical management, biomedical equipment services, biomedical equipment maintenance, clinical engineering management, clinical equipment management, clinical technology management, clinical technology services, medical equipment management, and medical equipment repair. This department has become an essential part of a hospital for managing, designing, and maintaining medical devices required for the diagnosis, treatment, and monitoring of patients. The hospital /biomedical department policies and procedures govern activities such as the planning, selection, and acquisition of medical devices, which include incoming inspection, acceptance, maintenance, and eventual disposal of medical equipment.

24. What is Central Sterile Supply Department (CSSD)? The Central Sterile, Supply Department (CSSD) is responsible for the decontamination, inspection, packing, and sterilization of reusable materials e.g. operation theater sets of trays for diagnostic and therapeutic purposes. It also provides sterile supplies and equipment required by all Operation Theatres, Intensive Care Units, Inpatient Wards Accident & Emergency, and Outpatient Services that render patient care thereby it prevents hospital-acquired infection. The responsibility of managing this unit is generally given to the nursing staff because of its vital role in controlling the infection. In some hospitals, this department's responsibilities include the collection and disposal of trash and the collection and decontaminating of dishes and utensils for the food service department. This department serves the entire hospital department.

XVI Outpatient Services

S. No	Question
1	Who is a Patient?
2	Who is an Outpatient?
3	What an Outpatient Department (OPD)?
4	What are Outpatient Clinics?
5	What is Environment?
6	What is Referral?
7	What is Patient Demographic Information?
8	What is Consultation?
9	What is the Admission Request Form?

1. Who is a Patient? A patient is any person who receives medical attention, care, or treatment. The person is most often sick or injured and in need of treatment by a physician or other medical professional, although one who is visiting a physician for a routine check-up may also be viewed as a patient. A patient is a person with a unique health-related problem. A patient is a person who is suffering and needs help. It is necessary to recognize their rights. These rights are equal to those of anyone else in health. Every person whether well or ill has the right to be treated with human dignity.

2. Who is an Outpatient? Outpatient is a patient who is not hospitalized overnight but who visit a hospital, clinic, or associated facility for diagnosis or treatment. Treatment provided in this fashion is called ambulatory care.

3. What is an Outpatient Department (OPD)? An outpatient is one who is treated in a clinic of OPD. It is divided into sections, or clinics, reflecting the clinical specialties and sub-specialties, and dental specialties of the medical services. Interaction of patients is more in outpatient services and its efficiency reflects the public image of the hospital. Modern outpatient departments offer a wide range of treatment services, diagnostic tests, and minor surgical procedures. The outpatient department of a hospital provides diagnosis and care for patients that do not need to stay overnight. An outpatient department doesn't require a patient to be admitted for treatment.

4. What are Outpatient Clinics? The outpatient clinics are divided into general clinics, specialty clinics, and therapy clinics. The general clinics are: Accident and emergency; General medicine; General surgery. The Important Specialty Clinics and their Specialties are as follows:

Orthopedics: Preservation, restoration, and development of form and function of the musculoskeletal system, extremities, spine, and associated structures by medical, surgical, and physical methods.

Orthopedic Surgery: Surgical treatment of acute and chronic disorders of the musculoskeletal system including injuries, diseases, dysfunction, and deformities in the extremities and spine.

Obstetrics and Gynecology: *Obstetrics:* The care of women during pregnancy, parturition (labor and childbirth), and puerperium. *Gynecology:* Diseases of the female genital tract, as well as endocrinology and reproductive physiology of the female.

Otorhinolaryngology or Ear, Nose, Throat (ENT): The combined specialties of diseases of the ear, nose, and larynx often including the upper respiratory tract; including diseases of related structures of the head and trunk

Ophthalmology: The eye and its diseases, and refractive errors

Dermatology: The skin and cutaneous lesions related to systemic disease

Dental: The healing science and art related to the embryology, anatomy, physiology, and pathology of the oral-facial complex, and with the prevention, diagnosis, and treatment of deformities, diseases conditions, and traumatic injuries thereof

Psychiatry: The diagnosis and treatment of mental disorders

Cardiology: The diagnosis and treatment of heart disease

Thoracic Surgery: Surgical treatment of heart disorders

Neurology: The diagnosis and treatment of various disorders of nervous systems (central, peripheral, and autonomic, and the neuromuscular junction and muscle)

Neuro Surgery: Surgery of the nervous system

Pediatrics: Treatment of children in health and disease during development from birth through adolescence

Pediatric Surgery: Surgical treatment for children

Gastroenterology: The diagnosis and treatment of the gastrointestinal tract, including stomach, intestines, and associated organs

Endocrinology: Concerned with the internal or hormonal secretions and their physiologic and pathologic relations

Nephrology: Diseases of the kidney

Urology: Diagnosis and treatment of the genitourinary tract

Reproductive Medicine: Diagnosis and Treatment for the Childless

Hematology: Blood disorders

Oncology: Cancerous conditions

Therapy Clinics: Physiotherapy: Treatment of pain, disease or injury by physical means.

Occupation Therapy: Therapeutic use of self-care, work, and recreational activities to increase independent function, enhance development, prevent disability, and achieve optimum quality of life. **Speech Therapy:** Treating functional and organic speech disorders and defects.

Radiotherapy: Use of electromagnetic or particulate radiation or ionizing radiation in the treatment of cancers.

5. What is Environment? The department should create a feeling of welcome and reassurance for the patients. It is the department where many patients gain their first impression of the hospital. Much depends upon the facilities provided; spacious and airy rooms, comfortable and individual seats, attractive furnishings, and absence of unnecessary noise. Staffs need to show helpful and courteous to patients. Fast music hastens slow-moving clinic lines

6. What is a Referral? The recommendation of another healthcare professional or a specialist to a patient for a specified reason or for further diagnosis and treatment is defined as a Referral. The process of directing or redirecting a patient to an appropriate specialist or agency for definitive treatment. A written requisition is filled on the Referral form by the referring specialist indicating full details of the provisional diagnosis given to the patient or the object of consultation and related clinical notes on which he desires an opinion. The referred Consultant after making his own examination should record his findings and recommendations on the same form, date and sign which can be feedback to the referral specialist

7. What is Patient Demographic Information? The module is a central registration system and should be maintained for outpatients. With this module, each patient will have one unit record and one permanent number used for all episodes of care. Every patient has to register their name before taking treatment from a physician. Patients may personally visit or send the information through a letter, a person or a phone call, or an E-mail for registration.

8. What is Consultation? Meet two or more physicians or surgeons to evaluate the nature and progress of the disease in a particular patient and to establish diagnosis, progress, and/or therapy. This form/report is similar to that of the Referral form. The difference is that the physician or the specialist may refer the patient to another specialist in the same Hospital for a proper and complete diagnosis. The Consultation is a provision of healthcare services by consulting a physician whose opinion or advice is requested by another physician. Once a patient is admitted to the hospital, the attending physician is responsible for requesting consultations. A consultation report is documented by the consultant and includes the consultant's opinion and findings based on a physical examination and review of the patient's records. For example, occasionally, a surgeon will request the general practitioner to evaluate the patient prior to the surgery to determine if there are any medical risks.

9. What is the Admission Request Form? An admission note is written for any patient to be admitted to a hospital. Admission advice is given by a doctor to the patient when he wants him to be admitted to the hospital. Doctors use them to record a patient's baseline status and may write additional on-service notes. Therefore the doctor completes this admission request form and sends it with the patient.

XVII Inpatient Services

S. No	Questions
1	Who is an Inpatient?
2	What is an Inpatient Service?
3	What is Admission?
4	What is Bed Allocation?
5	Who is responsible for patients' property during hospitalization?
6	What is a Ward?
7	What is an Intensive Care Unit (ICU)?
8	What is an Intensive Coronary Care Unit (ICCU)?
9	What is Neonatal Intensive Care Unit (NICU)?
10	What is Discharge?
11	What is Declaration by Patient?

1. Who is an inpatient? Inpatient on the other hand is "admitted" to the hospital and stays overnight or for an indeterminate time, usually several days or weeks (though some cases, like coma patients, have been in hospitals for years). Due to concerns such as dignity, human rights, and political correctness, the term "patient" is not always used to refer to a person receiving health care. Other terms that are sometimes used include health consumer, health care consumer or client. These may be used by governmental agencies, insurance companies, patient groups, or healthcare facilities. Individuals who use or have used psychiatric services may alternatively refer to themselves as consumers, users, or survivors.

2. What is an inpatient service? A patient who occupies a bed to receive continuous medical and nursing care and supervision in a hospital and stays overnight, with a comprehensive written record is called an *"Inpatient"*. The patient who needs hospitalization goes through the admitting procedure called *"Admission"*. Inpatients are typically provided with a bed/room, board (*Nursing Unit or Ward*), and continuous nursing service and stay at least overnight. The hospital ward is considered to be the safest place for patients. The ward nursing staff provides services to the patients directly or indirectly and assists medical professionals as a team. Patients are admitted in Inpatient wards for short and long term depending on the severity of their disease. Inpatient Department consists of wards with Nursing Stations, Beds, and all other facilities & services necessary for good patient care. Inpatient care, on the other hand, includes facility-based fees on top of those existing expenses. The overall cost for inpatients can range anywhere from a few thousand dollars to tens of thousands of dollars, depending on the length of stay and the treatment involved.

3. What is Admission? An inpatient episode is the period of time that an inpatient spends under the care of a consultant within a specialty of a hospital. It starts with an inpatient admission and ends with an inpatient discharge. The patients are referred by an Outpatient or Emergency or Other hospital or a Physician. If the patient happens to visit the hospital for the first time, then firstly his demographic information has to be recorded prior to admission. If a patient is already registered, his / her demographic information has to be updated An inpatient admission is categorized as an emergency, urgent, or routine inpatient admission. The appropriate admission category depends on the clinical condition of the patient as assessed by the receiving consultant. The patient may or may not be on a waiting list.

4. What is Bed Allocation? In this form, the details of the beds that are allotted to the patients coming in for admission are recorded. As this form maintains the status of the bed allocation, it would be helpful in allocating a vacant bed to the patient in need of it and if there is no bed vacant, they check when can there be a patient discharged and then give the patient a date and time to come back when can there be a patient discharge and then give the patient a date and time to come back for admission in the hospital. The different fields that are present in this form are: Name of the ward; Name of specialty - Fixed beds; occupied beds; vacant beds; (medical record), if there are any special requirements to be made for the patient, the nurse needs to arrange them.

5. Who is responsible for Patients' property during hospitalization? The safe custody of patients' property, valuables and cash is a service that can be helped when there are no relatives of a patient. If family members are not present, valuable items should be given to the nursing staff to be secured in a valuables envelope and locked in the safe. In any case, they are not to be kept at the bedside. If the property is too much valuable items, they can be **handed over to the administration to keep in their safe locker; and collect a receipt that** should be kept in the safe with a note in the medical record to enable handover at the time of patient discharge. On discharge, the same may be handed over to the patient or authorized relatives.

6. What is a ward? Ward is a block forming a division of hospital (or suite of rooms) shared by patients. The patients after admission to the hospital go to their respective wards as per the room and bed allocated. There will be a number of wards in the hospital. Each ward has some fixed beds and patients are allocated according to the treatment they would be undergoing. When the patient is admitted to the hospital, after all the admission procedures, he is brought into the ward. Here, the nurse receives the patient along with his medical record and checks if the patient is in the right and if the medical record belongs to him. The nurse also needs to check if the patient has signed the consent and then she takes the vital signs of the patient for her initial assessment. As per the admission request

7. What is Intensive Care Unit (ICU)? An intensive care unit (ICU), of a hospital, is a specialized unit for critically ill patients who need continuous and comprehensive care under the supervision of treating doctors and nursing staff. This unit is fully equipped with life-saving devices, medical and nursing staff, and monitoring devices necessary to provide intensive care. The patient who is admitted to this unit are serious, hence, are given "intensive care medicine" which provides life support or organ support systems in patients who usually require intensive close supervision of medicine.

8. What is Intensive Coronary Care Unit (ICCU)? The Intensive Coronary Care Unit (ICCU) or cardiac intensive care unit (CICU) is a hospital ward specialized in the care of patients when heart attacks, unstable angina, cardiac, dysrhythmia, and (in practice) various other cardiac conditions that require continuous close monitoring and treatment. The ward or unit is geared to deal with patients who are typically admitted to the CCU or CICU suffering from a variety of critical cardiac conditions, including heart failure, acute myocardial infarction, cardiomyopathy, cardiac arrest, and cardiogenic shock requiring frequent hemodynamic monitoring, specialized diagnostic treatment, and continuous observations and specialized intensive nursing care.

9. What is Neonatal Intensive Care Unit (NICU)? A neonatal intensive care unit (NICU) is also known as a newborn intensive care unit. Premature or ill newborn children are treated in

this very specialized care unit. The staff working in this unit provides specialized and high-level intensive care to premature infants while a special care nursery (SCN) provides specialized care for infants with less severe medical problems. Newborn babies who need intensive medical attention are generally admitted into this unit of the hospital for getting advanced technology from specialized and experienced healthcare professionals. This unit is also used for intermediate or continuing care for babies who are not as sick but do need specialized nursing care.

10. What is Discharge? When a patient is declared, as ‘cured or recovered or improved’, the attending physician discharges the patient with discharge advice on record and a copy of the discharge summary to the patient with medication and follow-up advice. When a patient deliberately refuses to care in spite of repeated medical advice, he may be discharged ‘Against Medical Advice’ after getting his willingness in writing. If the patient leaves the ward without informing the nurses or the physicians and not returning to the ward at all is certified to be ‘Absconded’ and the file is closed with due information to the administration. If patient death is considered as discharge and given a death certificate and the body is released to the relatives, if the death case happens to be medico-legal, then the body is handed over to the police. The next course of action will be decided by the police, e.g. post-mortem to be done or not, or any other procedures, etc.

11. What is Declaration by the patient? For any patient, who wishes to make a declaration before his death, such statements have to be recorded in the patient’s file in the presence of a magistrate. However, in the absence of a magistrate, the declaration can be recorded in the presence of three persons including the treating physician, a nurse, and the hospital administrator or his representative.

XVIII Nursing Dynamic Service in Patient Care

S. No	Question
1	What is Nursing Dynamic Service in Patient Care?
2	What are Nursing-sensitive quality indicators?
3	When the American Nursing Association (ANA) established the National Database?
4	What is the Conception of a TERM “N U R S E” and “S T A N D A R D”? According to Prof Dr) G D Mogli
5	What is the Role of Nursing in Healthcare Institution
6	What are values of Nurses’ Records?
7	What is a Vital Sign Form?
8	What is Nurse’s Initial Assessment?
9	What is Nursing Medication Record?
10	What is Nurse’s Observation Form?
11	What is an Organization of Patient care in the ward?
12	What is an Operation Theatre?
13	Who is a Theatre Nursing?
14	Who is a Scrub Nurse?
15	What is the role of a theatre Nurse?
16	What type of Nurses work in the Operating Room (Theatre)?
17	What is Surgical Nurses?
18	Who is a Circulating Nurse?
19	What are Post Anaesthesia Care Unit (PACU)
20	What is the difference between a Scrub nurse and a Surgical Nurse?
21	What is Nursing Care Plan?
22	What is Narcotic Drug Prescription?
23	What is Nurse’s Pre-operative Checklist?
24	What is Nurse’s Post-operative checklist?
25	What is Physician’s Pre-operative record?
26	What is Physician’s Post-operative record?
27	What is Recovery Room?
28	What is Nursing Discharge Form?
29	What is Patient Discharge Summary?
30	What is Ward Census?

1. What is Nursing Dynamic Service in Patient Care? The author during his service in nine countries had observed that nursing services are exceptional due to their dedication to the profession. From the time a patient is admitted, as an outpatient, emergency, or inpatient, till he/she is discharged major responsibility rests with the in-charge nurse. Since the majority of nursing staff devote to the hospitalized inpatient situation compared to other services, the nursing working process is dealt with comprehensively. During this process, the nursing staff is overburdened by too many jobs including nursing and non-nursing functions e.g., interaction with many people, too much documentation work, and responsibility towards sick and injured with minimal staff to carry out within the time schedule to the utmost satisfaction of everyone. It is found, in developing countries, the head nurse spends 70% of her time on administrative work and the staff nurse 50-60% on patient care. The

hospital's reputation depends mainly on, wards that run 24/7 to deal with cases from simple to complex and high-risk emergencies treated in the ward.

It is generally found that there is an acute shortage of nursing professionals all over the globe, while the demand for their services is great in almost all nations. With this background, nursing personnel are working under great stress, whatever service they involve in, besides regular direct patient care with medical recording, they have to perform many functions including administrative and other works that devour most of their precious time.

This chapter is added with the objective to assist the HIM and other health professionals to know the overburdened nursing staff with nursing and non-nursing duties coupled with extensive documentation responsibilities. The advent of technology has changed many fields and health is one of them. It is a matter of time; before all the health institutions would have to be eHealth-managed organizations. Nursing is the most overwhelmed with recording work and needs to embrace the electronic system that minimizes duplication, efforts, and optimum output for the benefit of everyone, especially the patient. Nursing professionals as change agents, need to promote the eHealth system including implementing an electronic recording system that helps nursing staff to provide the best possible healthcare to needy patients.

2. What are Nursing-sensitive quality indicators? Nursing-sensitive quality indicators are an important for establishing evidence-based practice guidelines. But measuring these indicators is not simply good science – it's an ethical imperative. Nursing's foundational principles and guidelines state that, as a profession, nursing has a **responsibility** to measure, evaluate, and improve the quality of nursing practice. The American Nurses Association (ANA) identified ten critical nursing indicators for acute care settings in the year 1999. The ANA added ten others that are applicable to community-based, non-acute care settings in the year 2002. New indicators added according to the need every year. The ten original indicators that apply to hospital-based nursing are as follows: i. Patient satisfaction with pain management; ii. Patient satisfaction with nursing care; iii. Patient satisfaction with overall care; iv. Patient satisfaction with medical information provided; v. Pressure ulcers; vi. Patient falls; vii. Nurse's job satisfaction; Rates of nosocomial infections; viii. Total hours of nursing care per patient-per day; ix. Staffing mix (ratios of RNs, LPNs, and x. unlicensed staff). By identifying this first group of indicators, the ANA became a pioneer, of sorts, in evidence-based practice. The next step was a literature search to identify other indicators that were potentially nurse-sensitive. Those were then reviewed and either validated as being truly nurse-sensitive are approved, if not they are discarded.

3. When the American Nursing Association (ANA) established the National Database? In 1998 National Database of Nursing Quality Indicators™ (NDNQI®), in order to continue to build on data gained from earlier studies. There was already an established link between nurse staffing and patient outcomes, but more data and reporting were needed to evaluate other indicators of nursing quality at the unit level. Reporting was needed to evaluate other indicators of nursing quality at the unit level.

4. What is the Conception of a TERM “N U R S E” and S T A N D A R D? According to Prof. Dr. G D Mogli:

The Conception of a Nurse and the Nursing standards as developed by Prof. Dr. G. D. Mogli Prof. Dr.G. D. Mogli's: The Conception of a “Nurse and “Nursing Standards”. And the

Nursing standards as developed by the ANA and comparative statement are presented below for the benefit of use Reference: “Managing Globally Efficient Optimal Hospitals for Healthcare Managerial Professionals”. (Chapter 52 Nursin Service: PP 293-294). The book available in AMAZON.

Prof. Dr. G. D. Mogli’s The Conception of a “Nurse

The N U R S E	
N	Nursing, nourishing the sick & injured with utmost care
U	Understanding the condition of the patient and acting aptly
R	Recording, rating, and reporting the progress to the healthcare providers
S	Serving with a smile; the patient to bring back to normalcy with full devotion
E	Educating, Empowering the patient to enjoy healthy habits after discharge

Prof. Dr. G. D. Mogli’s Conception of Nursing Standards

Standard	Prof. Dr. G. D. Mogli
S	Serving with a smile; conception for sick, and injured in the healthcare environment.
T	Taking nursing as an ethical professional career to serving humanity with high quality and proficiency.
A	Aiming to acquire knowledge, skills, and attitude to be an efficient nursing expert.
N	Nursing all tirelessly and educate nursing like Florence Nightingale “the lady with the Lamp”.
D	Directing the sickness into healthy in alliance with other healthcare experts.
A	Achieving ample results for the client and imparting expertise to junior nursing colleagues.
R	Reviewing with the healthcare provider the client’s condition for fitness to release
D	Discharging clients with educating & empowering them to observe to enjoy a healthy life

5. What is the Role of Nursing in Healthcare Institution? The treating physician and his medical team are responsible for treatment of patient, in reality the care and treatment is practically executed by the nursing service. The technique of rendering nursing care has become more complex The Nursing role is vital when the patient is highly critical and struggles for survival and nursing role in ICU, CCU and emergency units are exemplary

6. What are values of Nurses’ Records? Nursing document helps in diagnosis of specific case and also in the treatment of other cases. Good nursing service implies expert observation. Every important observation should be recorded. Clinical records require accuracy, promptness, careful itemization of services of the doctor’s orders. All orders should be in writing and much value in the elimination of unnecessary details.

7. What is a Vital Signs Form? Taking the vital signs of a patient is one of the most important functions of nursing assessment. The patient’s vital signs are temperature, pulse, breathing (respiration), and blood pressure. Changes in any of the vital signs can indicate changes in the patient’s condition. Any sudden changes should always be reported to the

physician. Vital signs are usually checked on admission and at regular intervals after that. In many hospitals, they are checked every four hours. When patients are in intensive care or have just come back from surgery, their vital signs are checked more frequently. Vital signs as a routine must be checked before and after any invasive procedures. Before and after giving any medication that can affect blood pressure and respiration. Before and after any nursing procedure that might affect any vital signs, for example, walking a patient who has been on bed rest. Always check vital signs when a patient complains of lightheadedness, dizziness, being suddenly hot, or whenever the patient's condition changes for the worse. A vital sign form tells us the condition of a patient. It consists of several fields like pulse rate, blood pressure, height, weight, and many more by which the patient's treatment is done. All this information is taken by the nurses according to the patient's condition.

8. What is Nurse's Initial Assessment? Evaluation of the nature and extent of nursing problems presented by a patient for the purpose of patient care planning are noted down by the nurses in the nurse's initial assessment. In this form, the nurse needs to note down many things like initial diagnosis, clinical data, general information, nutritional pattern, reproductive pattern, discharge plan, etc. The different fields that are present in this form are Patient's demographic information; Date, time, name and signature of the nurse; Date and time of Admission; Reason for admission; Type of Admission (Elective, ER, Urgent); Mode of transport (ambulance, stretcher, walking, GP, wheelchair, trolley, other); Information obtained from (patient, relative, Interpreter, doctor, medical chart, other); Allergies; Admitting diagnosis and Initial diagnosis; Relevant past medical history; Use of tobacco and alcohol (how much and how long); Medication pre-admission; Date; Time; Medication; Dose, Frequency; Signature.

9. What is a Nursing Medication Record? Medication also referred to as medicine, can be loosely defined as any substance intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease. In this nurse's medication record, the nurse follows the physician's instructions and gives the medication/treatment accordingly i.e. at what time, what dose, at what frequency, etc. the medicines have to be given to the patient. The different fields that are present in this form are: Patients complete demographic information; Date and time (medication ordered) Name of the physician/consultant; Amount of Dose to be given; Route; Frequency; Time and initials; Signature of the physician Nurse's notes/remarks; Signature and Id number of the nurse

10. What is Nurse's Observation Form? The main purpose of the observation form is to ensure patient safety, as well as, to provide a process for observing and documenting patient location and behavior. There are a number of things the nurse needs to take care of in this form, ensure the nurses are making rounds regularly to notice the condition of the patient as per the physician's requirement, review and update the observation form when any changes are made i.e. changes in individual patient precautions levels, room or bed changes or any discharge occurs, etc. The different fields that are present in this form are: Patient's demographic information; Consultant In-charge; Department and unit; Name of the nurse, date and time of observation; Vital signs of the patient (temp, BP, Resp. Pulse rate,); Coma scale (eyes open/verbal response/motor response); Pupils (both Left and Right); Limb movement (arms/legs); Level of consciousness; Cough reflex; Response to stimuli (verbal and Painful); Perception pulses; Skin color; Remarks; Signature; Specific Nursing care/comments

11. What is an Organization of Patient care in the ward? Prof. Dr. Mogli states that “The patient is the nucleus, around which all healthcare work team revolve and towards which all healthcare professional’s efforts placed”. Two important categories of personnel who involve direct patient care are doctors, nurses, and allied professionals, who in turn require the collaboration assistance and service of many other professionals and non-professional personnel of various departments such as laboratory, radiology, dietary, pharmacy, C.S. S. D. and, medical records,

12. What is an Operation Theatre? An operating theatre (OT) also known as an operating room (OR) or An operating suite is a facility within a hospital where surgical operations are carried out in a sterile environment under experienced surgeon/s, anesthetists, and scrub nurses.

13. Who is a Theatre Nursing? A theatre nurse works with patients of all ages and primarily within hospital operating theatres and anesthetic/recovery/ICU areas. They may also be involved with certain procedures in wards, clinics, or in other specialist areas such as cardiac catheterization units. They work as a part of a perioperative team that includes: Surgeons; Anesthetists; Operating department practitioners (ODPs); Assistant practitioners; Healthcare assistants; Theatre support workers and Porters. General operating tables are designed to perform a wide range of procedures while others are designed for specific procedures, for example, orthopedic tables. One of the most vital operation theatre equipment, the Anaesthesia machine provides patients with a balanced mixture of anesthesia and life-sustaining gases. The operating room lights are over the table to provide bright light, without shadows, during surgery. The anesthesia machine is at the head of the operating table. This machine has tubes that connect to the patient to assist them in breathing during surgery and built-in monitors that help control the mixture of gases in the breathing circuit.

14. Who is a Scrub Nurse? Scrub nurse. Scrub nurses do a surgical scrub and go into the surgery with the surgical patient and doctors. They set up the operating room for the patient, ensure all the tools are sterile and ready to go, hand tools to the doctor during the surgery, and perform other duties inside the surgical room. They are Perioperative practitioners, or theatre nurses, work in anaesthetics, surgery or recovery and ensure patient safety. They are also known as a scrub nurse.

15. What is the role of a theatre Nurse? Theatre Nurse monitors the patient's health; providing appropriate care and treatment until the patient has recovered from the effects of the anesthesia and/or surgery; assesses the patient to ensure they can be discharged back to a ward. Assess the care given during each of the perioperative phases

16. What type of Nurses work in the Operating Room (Theatre)? There are actually several types of operating room nurses: pre-op nurses, intra-op nurses, and post-op nurses. Each has duties specific to the patient's journey through surgery.

17. What is Surgical Nurses? Surgical nurses are also known as perioperative nurses, and work in the OR and with surgery patients before, during, and after their surgery. There are many specific things that a perioperative-trained registered nurse will do to help surgeons and nurse practitioners during surgery, pediatrics, emergency, geriatrics—the list goes on and on. If you’re currently a nurse, you know there are many different levels of nursing and specialties that you can pursue. Surgical nurses are a critical part of the healthcare team and

ensure that patients are well cared for before, during, and after their surgery. They need specialized skills and knowledge in order to be prepared for working in a surgical setting.

18. Who is a Circulating Nurse? Circulating nurses are the ones a patient will meet with pre-procedure. This nurse will go over consent forms, answer questions about the procedure, do preoperative assessments, make sure the equipment is ready to go, and may update family members on the surgery status during the operation.

19. What are Post Anaesthesia Care Unit (PACU) Nurses? PACU nurses. post-anesthesia care units are where patients are taken after their surgery is complete. These nurses help patients come out of their anesthesia, helping them stabilize and prepare for transfer to another unit of the hospital, or for discharge for outpatient procedures. They update them on their status, work with family members, take vital signs, and ensure the patient is comfortable. They also help them understand their pain medications and how to care for themselves.

20. What is the difference between a Scrub nurse and a Surgical Nurse? The role of scrub nurses and surgical techs may seem similar, but there are important certification differences that make their roles unique. Surgical techs are inside an operating room (OR) and handle the equipment. They make sure it is sterile and may hand clean instruments to surgeons. However, they are not certified to do other roles, such as preparing patients, checking vital signs, or monitoring patients. Scrub nurses may take on other roles inside and outside the operating room in an RN capacity, but surgical techs generally work for the RN and focus mainly on surgical equipment. Surgical technicians are not licensed

21. What is Nursing Care Plan? A nursing care plan outlines the nursing care to be provided to a patient. It is a set of actions the nurse will implement to resolve nursing problems identified by the assessment. The creation of the plan is an intermediate stage of the nursing process. It guides in the ongoing provision of nursing care and assists in the evaluation of that care

22. What is Narcotic Drug Prescription? Narcotic drugs are prescribed and given under the supervision of the treating physician. These drugs are controlled drugs, which are kept under the supervision of senior ward nurses under lock and key, with an account register to show the stock and its use. Narcotic drugs are maintained with special care so that no misuse or theft can take place. A drug that, in medicinal doses can generally calm morbid susceptibility, relieves pain, and produces sleep. If the doses are wrongly prescribed or used; this can produce a state of unconsciousness, coma, or convulsions, and, when given in more or insufficient quantity, causes death. The best examples are opium (with morphine), belladonna (with atropine), and conium. In the hospitals, if a patient is in a serious condition, the patient cannot bear the pain or the patient terminal condition and there are very less chances of saving his life, then doctors recommend taking these drugs. It is given to the patient only after following the necessary procedures like taking the consent of the patient and his / her relatives as there could be a loss of life. The different fields that are present in this special Narcotic Form are as follows: Complete Patient's demographic information; Diagnosis; Narcotic drug required; Strength; Quantity; Instructions; Physician's name and signature; Name and signature of Administering nurse; Name and signature of Head Nurse; Date and time of Administration; Serial number of the drug; Amount of drug wasted; Wasted By; Destruction witnessed by

23. What is Nurse's Pre-operative Checklist? Care is given during the period prior to undergoing surgery when psychological and physical preparation is made according to the special needs of the individual patient. This period spans the time between admissions to the hospital to the time the surgery begins. The pre-operative checklist is completed by the nurse in the ward who escorts the patient to the operation theatre and the nurse in the operation theater which is essential for them and the physician /consultant/surgeon to decide whether to go ahead or not with the operation. There are many details that a nurse needs to note and check before any operation like vital signs, allergies, blood requests and availability, etc. The different fields that are present in this form are the Patient's complete demographic information (incl. Consultant in charge, Dept. and unit); Check the identification of the patient; Date and vital signs; Allergies; Medical history; X-ray, ECG, Consent; Blood requested, availability, group, num. of the unit; Surgical preparation and checked by; Urinalysis; CBC and SCT; Lab investigation report in the chart; Time urine voided (Retention catheter); Prosthesis removed (Dentures, Contact lenses, Plates); Valuables and Jewellery removed or secured; Hairpins, makeup, nail polish, lipstick; Clean gown, the cap on, clean blanket; Pre-op medication; Slide rails; Pre-op patient instructions; Blood transfusion requisition on the chart; Nurse name, signature and time

24. What is Nurse's Post-operative Checklist? Care is given during the period, after undergoing the surgery when psychological and physical preparation are made according to the special needs of the individual patient. This period spans the time between the time the surgery begins to the discharge of the patient. The post-operative checklist is completed by the nurse who escorts the patient from the operation theater to the recovery room and then to the ward depending on the patient's condition and also by the nurse in the operation theater which is essential for them and the physician /consultant/surgeon to know the condition of the patient after the operation. There are many details that a nurse needs to note and check after any operation like a vital sign, allergies, recommended treatment, oxygen saturation, count of sponges, needles and instruments, etc. The different fields that are present in this form are: Patient's complete demographic information (incl. Consultant charge, Dept. and unit) Date and vital signs regularly; Allergies; Bovie; Setting coagulation & Cutting; Ground Location; Sponge – Needle – Instrument count

	1st	2nd	3rd	Special
Correct				
Incorrect				

Intraoperative history & Post-operative instructions; Past medical history; Medications; Allergies; Intra-operative instructions; Recommended treatment and Prophylaxis; Respiratory status assessment; Oxygen saturation; Effort of breathing / use of accessory muscles; Respiratory rate; Trachea central or not?; Symmetry of respiration / expansion; Pain and adequacy of pain control; Any significant symptoms e.g. chest pain, breathlessness; Breath sounds; Percussion note; Volume status assessment; Hands – warm or cool, pink or pale?; Capillary return < 2s or not?; Pulse rate, volume, and rhythm; Blood pressure; Conjunctiva pallor; Jugular venous pressure; Urine color and rate of production; Drainage from drains, wounds & NG tubes; Mental status assessment; Patient conscious and normally responsive? (AVPU); If abnormal determine: 1. If confusion is present 2. GCS, oxygen saturation, and blood glucose; Record

25. What is Physician's Pre-operative record? The different fields that are present in this field are: Patient's complete demographic information; Date and Time; Vital signs taken prior to transfer; Side rails raised; Instructed not to smoke; Instructed to stay on the bed; Prep site:

By Whom: Checked by: NPO since Voided; Catheter; Beside glucose: Time: If ordered to the operating room with the patient; X-rays; Old Charts; SCDs / TEDs; Meds

26. What is Physician's Post-operative record? The different fields that are present in this record are: Patient's demographic information; Date and Time arrived at the unit; Arrived via; Type of procedure; Level of consciousness; Oxygen; Respiratory quality; Breath sounds; Cardiac; GI; Skin color; Skin condition; Peripheral pulses; Circle Distal to site; Dressing / Operative site; IV Therapy (Fluid 1 Site: Rate: Fluid 2 No Redness or swelling at the site; Fluid 3 Other:); Drainage tubes; Puncture site; Sheath Removal; Site check post Sheath removal; Plan of Care; Potential for alteration and ventilation; Potential alteration cardiovascular function; Potential alteration in mental status; Potential for fear and/or anxiety; Potential for injury; Knowledge deficit/potential for post-procedure complications at home; Potential alteration in fluid volume; Potential alteration in comfort; Other problems / Needs; Pain Management; Time; Pain scale; Medication / Dose; Initials; Response / Pain scale; Time and Initials; Vital sign Post procedure / Sheath Removal; Time; LOC; Temp / B.P / P / RR or O2 sat.; Pain level; Peripheral pulse; Site check; Initials; Daily care record; Date; Bed rest; Ambulating; R or L leg straight; SCD; Anti-embolism hose; PCA pump; Traction; Telemetry; Type of diet; Amount eaten; Bath / Shower/ Bed; Complete – self / Assistant; Oral care / P.M care; Other; Initials and Signature; Date and Time

27. What is Recovery Room? Recovery is the act of regaining or returning to a normal or healthy state. A recovery room (RR) is a hospital room that is equipped with apparatus for meeting postoperative emergencies and in which surgical patients are kept during the immediate postoperative period for care and recovery from anesthesia. The different fields that are used in this form are: Patient's demographic information Operation; Name of the surgeon; Surgical procedures; Operation theater number; Arrival time and time the patient transferred to the ward; Condition of the patient; Pulse and BP chart. Arrival time and time the patient transferred to the ward; Condition of the patient; Pulse and BP chart; a Blood test is taken; Surgical / Anesthetic complications; Wound / Dressing satisfactory; Pressure area satisfactory; Drains / Catheters satisfactory; Questionable infected case?; Naso-Gastric tube in the site?; Drugs given in recovery; Post-op medications; Stimulants and Reversal agents; Other drugs; Therapy / Blood given in recovery; Nursing observations; Name and signature of the recovery room nurse and time.

28. What is Nursing Discharge Form? During hospitalizing of patients in the ward from the time of admission till discharge of a patient, the responsibility for safety, security, and timely care rests with the nursing staff. The nursing staff has the most important responsibility prior to the discharge of a patient from the ward. The term "discharge" includes a patient living or dead, absconding, or transferring to another hospital, etc. The treating physician is the one who gives discharge orders and the nursing staff has the responsibility to ensure carry out certain administrative functions before leaving the ward. The following are some of the activities recorded in the nursing discharge form: Complete patient identification (demographic) information; Date and time of discharge; Final diagnosis; General Information; Date and time of patient escorted from the ward by (relative, nurse, etc.), patiently walked, and via wheelchair, stretcher, etc.); Valuables returned; Medications; Prescription given (List the names of the medications with instructions); Any potential drug-food instructions (If yes, make the patient / relative aware of it.); Demonstrate-safe and effective use of medication to Patient / relative; Special diet (instructions given); Restriction of activities if any,(instructions given) Follow-up care (OPD appointment date and time of

visit indicated); Special equipment/supplies (If supplied, name of the equipment and its proper use to the patient/relatives) Health education /written information provided to the patient / relative (if yes, list them) Other guidelines or instructions related to care (if given, specify); Treating Physician's name, title, and signature; Nurse's name, title, and signature

29. What is Patient Discharge Summary? The administrative discharging process; the patient, live or dead, from hospital or other health facilities is considered a discharge. A written approval document and order from the consultant/physician is required for a patient to leave the hospital. After the doctor has written the patient's discharge order, the attending nurse will take over the other works for the discharge of the patient. The Reception begins the billing process thereafter. Discharge from the hospital is the point at which the patient leaves the hospital and either returns home or is transferred to another facility such as one for rehabilitation or to a nursing home. Discharge involves the medical instructions that the patient will need to follow. The different fields that are present in this form are the Patient's complete demographic information; Date of Admission; Date of Discharge; Reason for admission; Name of the Ward and Bed Number; Final diagnosis; another diagnosis; Surgical procedures (if any); Brief history; Physical examination; Laboratory investigations and results; Course and Treatment including surgical procedures-operations; (Including dates); Post-operative infections (if any); Status on discharge (stationary / Improved / Cured / Poor /Died); Recommendations / Discharge instructions; Follow up; Name of the Treat. Physician, date, time, and signature.

30. What is Ward Census? Ward census is an official count of the number of patients in the hospital, generally done at the end of each day, which tells the number of beds that are available and the number of beds that are allotted in each ward respectively in a day-wise manner. By maintaining this record, the hospital would know which kind of patients is being admitted to the hospital so as to increase or decrease the beds in those wards. This record contains the previous day's census, new admissions in the ward, the total number of patients transferred in, the discharge of the patients from each ward (alive or dead), the total number of patients transferred out, and the current day's census.

XIX Managing Hospital Services

S. No	Question
1	Who is a Hospital CEO?
3	What is Administration?
2	Who is a Medical Director?
3	Who is a Non-Medical Hospital Director/Administrator?
4	What talents should Healthcare administrators have?
5	What is the difference between Managing Director (MD) and Whole Time Director (WTD)?
6	What are Public Relations?
7	What is Hospital Patient Care Relationship Coordinator (HPCRC)?
8	What is Medical Transcription?
9	What is the Definition of a Secretary?
10	What is Human Resource Management?
11	What is Finance Management?
12	What is Information Technology (Medical Informatics) Management?
13	What is Medical Records Role in the Hospital?
14	What is a Professional Association (AS)?
15	What is the major purpose of a professional association?
16	What is Health Information Management (HIM) Association?
17	When the National Medical Record Associations of Global born?
18	Who Founded HIMA India and got the IFHIMA Affiliation and When?
19	Who and When Celebrated the 50 Years of the Golden Jubilee of HIMA India?
20	Who Dedicated Decades of Service to the HIM Profession Globally?
21	What was Prof. Dr. Mogli's recent (2023) Global Achievement in Profession?
22	Who is the Father of Medical Records of India?
23	What is the Linkage of the Computer in the hospital?
24	Why the many hospital OP clinics are overcrowded and in chaos?
25	How to avoid the chaos of the hospital?

1. Who is a Hospital CEO? CEOs are experienced professionals who oversee almost every aspect of a medical facility, making sure operations run effectively. They must be adept at streamlining processes to improve efficiencies and allocate resources for effective patient care. A Hospital CEO has the responsibility to ensure almost every aspect of how hospitals perform is working efficiently. They need to find a balance in managing the day-to-day operations while leading strategic development initiatives required for long-term success.

2. Who is Medical Director? The medical director organizes and coordinates physician services and services provided by other professionals as they relate to patient care. The medical director participates in the process to ensure the appropriateness and quality of medical care and medically related care. Similar professions and job titles to a Medical Director are Professor of Medicine, Health Director, Director of Care, Family Physician, Clinical Professor, Medical Officer, Medicine Specialist, and Primary Care Physician.

3. Who is a Non-Medical Hospital Director/Administrator? is one who doesn't have a medical degree; however, he has a Master of Hospital Administration; or Master of Public Health, or a Master of Business Administration; with working experience in

hospitals or healthcare institutions. His responsibilities include mostly general; leaving the medical field; he is involved in almost all the functions of the hospital management. As a hospital administrator actively involves with human resources, and in all allied support, and auxiliary services ensures the housing, transport, communication, public relations, and the hospital patient flow system runs smoothly

4. What talents should Healthcare administrators have? Healthcare administrators must always maintain professionalism in behavior and presence. They must be proficient at adjusting to new developments in technology, legal matters, and policies. Apart from being flexible, creative, analytical, and organized, they should most importantly be able to effectively communicate with people at all professional levels, specialties, and roles. An effective hospital manager should be aware of what is going on in their department or facility and should have details of all employees' daily responsibilities

5. What is the difference between Managing Director (MD) and Whole Time Director (WTD)? A Managing Director (MD) is the highest executive position in a company, responsible for the overall management and performance of the organization. A Whole Time Director (WTD) is a full-time executive director who is appointed by the Board of Directors and is responsible for the day-to-day management of the hospital.

6. What are Public Relations? Public relations (PR) are the practice of managing the communication between an organization and its public and especially health-related topics. An organization represented by PR exposure to their audiences using topics of public interest and news items. Common activities include speaking at conferences, working with the press, and employee communication. PR can be used to build rapport with employees, customers, investors, or the general public. Almost any organization that has a stake in how it is portrayed in the public arena employs some level of public relations. There are a number of related sister disciplines all falling under the banner of Corporate Communications, such as analyst relations, media relations, investor relations, internal communications, or labor relations.

7. What is Hospital Patient Care Relationship Coordinator (HPCRC)? This unique position "Hospital Patient Care Relationship Coordinator (HPCRC)": is one of the allied healthcare professionals with paramedic related educational background, to coordinate and liaison between the medical, nursing, other allied healthcare services, administration, finance, transportation, etc., related to the patient care, and the patient, relatives or attendants of patients, referred institution and public.

8. What is Medical Transcription? Medical Transcription is commonly known as MT, is an allied healthcare profession, which deals in the process of transcription, or converting voice-recorded reports as dictated by physicians or other healthcare professionals into text format. MT as a profession: A typical medical transcriptionist or a medical language specialist is an individual who performs medical transcription and is known as a medical transcriptionist (MT) or a Medical Language Specialist (MLS). The equipment used is called a medical transcribe, e.g., a cassette player with foot controls operated by the MT for report playback and transcription.

9. What is the Definition of a Secretary? Dr. Mogli defines a secretary "as a person qualified to hold secretarial responsibilities, with positive mindset and behavior that enable to perform effectively as an executive assistant whose first characteristics is to maintain strict

confidentiality of information maintained by her/him, who possesses a mastery of office skills, demonstrates the ability to assume responsibility without direct supervision, exercises initiative and judgment, and makes decisions within the scope of assigned authority and is a spokesperson of the office or clinic or organization.

10. What is Human Resource Management? Human resource management (HRM) is the practice of recruiting, hiring, deploying, and managing an organization's employees. That includes recruiting, vetting, selecting, hiring, onboarding, training, promoting, paying, and firing employees and independent contractors. HRM is often referred to simply as human resources (HR). To be more precise the HRD is responsible for selecting, recruiting training and developing good employer-employee Relations. Maintain organization or company culture. Manage employee benefits. Create a safe and conducive work environment and handle disciplinary actions including firing.

11. What is Finance Management? This section deals with financial management, economizing expenditure, accounting, and budgeting. There should be a cost analysis unit for hospitals as well as for each department. HIM can in cooperation with the Finance Department take his database information on patient care can calculate the cost of each department or service or even each episode of care.

12. What is Information Technology (Medical Informatics) Management? The technology is wildly used in the management process, for example, in determining staff requirements, equipment, and other materials. Technology is very much applied in financial dealing for calculating budgets, cost analysis, billing, etc. The Health Information System (HIS) is applied in many functions that include diverse types of data, such as Patient information, Computer physician order entry (CPOE), decision support, clinical laboratory, radiology, pharmacy ordering, prescription handling, and pharmacopeia, and patient monitoring, patient census and billing, outcomes assessment and quality control, supplies, inventory, maintenance, and orders management. There shall be written policies and procedures for the HIS which address the operation of equipment, the establishment of priorities, data user involvement, data collection, analysis and reporting, and the computerized reporting required by the management.

13. What is Medical Records Role in the Hospital? Patient medical records should be properly organized and standardized to include drug information on patients' medications, patient health maintenance, patient medical education, storage, maintenance, and transfer of information when required. One screen concept: computer screen should contain the basic information needed for each patient encounter without browsing from one screen to another. This will help the staff to see all the important information on one screen. The computer system should allow the patient record to be stored electronically or allow it to be routinely printed as a paper copy and still store the patient's basic data. Linkage with the laboratory, X-ray department, and office billing system will enhance the hospital patient care system.

14. What is a Professional Association (AS)? AS is a body of persons engaged in the same profession, formed usually to control entry into the profession, maintain standards, and represent the profession in discussions with other bodies? These associations provide valuable industry insights, news, learning, and networking opportunities for their members.

15. What is the major purpose of a professional association? Professional organizations offer development and connections with others in their field and enhance their

professional knowledge and skills. Contribution in the conference enhances your professional capabilities.

16. What is Health Information Management (HIM) Association? The HIMA is a professional organization that promotes clinical use of electronic and paper-based medical information, training to improve working skills on managing modern medical records.

17. When the National Medical Record Associations of Global born? The most significant milestones and landmarks were the birth of national associations in different countries: e.g. the USA (1928), Canada (1942), Great Britain (1948), Australia (1952) and India (1972), and so on... Many developed and developing countries have formed national medical records associations with different names according to their country's language and practice; e.g. Germany France, Italy, and so on.

18. Who Founded HIMA India and got the IFHIMA Affiliation and When? The author Prof. Dr. G. D. Mogli of this book was working in JIPMER, Pondicherry, is a Founder, formed the HIMA India and registered on 12th July 1972 in Pondicherry, India, Under the Government of India Act XXI of 1860, and S.No.32 of 1972. The founder applied immediately after formation for affiliation to the International Federation of Health Information Management Association (IFHIMA) in July 1972. According to the IFHIMA protocol, the new association has to wait for 4 years and present justification in the next 7th International Congress that was to be held in Toronto, Canada. Dr. Mogli participated and presented justification; got the affiliation and along with Germany, India became a member of IFHIMA in 1976.

19. Who and When Celebrated the 50 Years of the Golden Jubilee of HIMA India? Prof. Dr. Mogli on the occasion of 50 years, the Golden Jubilee of HIMA India (1972-2022); conducted Two-Day International Conference with two workshops with the theme “How to Outshine and Succeed in the HIM Profession to be a Global Expert” from 17-18 December 2022 at KIMS Hospitals, Hyderabad, India. The program was highly appreciated by Global distinguished professionals and the conference was a grand success; the global distinguished participants from the USA, Canada, the UK, and the Middle East participated and presented papers to make a teaching and learning exercise for all the HIM personnel. We received excellent feedback from IFHIMA's distinguished professionals.

20. Who Dedicated Decades of Service to the HIM Profession Globally? These dedicated professionals can be classified into mainly three categories: Firstly those who initially dedicated their efforts and decades of precious life to the profession and made what we see the IFHIMA' as of today. The following are those who not only have done tremendous professional work in their respective countries, and reached high positions by mere hard dedicated work and earned great esteem, but also spend their energy and life in serving the profession. Out of the following, those who are alive are not only participating in almost all the IFHIMA Congress but are actively involved in its function and growth and giving their best possible advice and assistance whenever asked or needed.

- (i). Mrs. Grace Whiting Myers, of the USA, was elected the first professional president
- (ii). Elsie Royle Mansell of UK Instrumental formed a UK association and conducted the first International Congress in the UK in 1952. And also formed IFMRO in Sweden in 1968
- (iii). Dr. Skrinjar-Nerima of the World Health Organization- brought the world of MR professionals into IFHIMA

(iv). Prof. Phyllis Watson of Australia- Great Educationist, since 1972 fully dedicated and selfless service to IFHIMA to date

(v). Carol Lewis of USA–Great Consultant- helped many DC professionals; since 1976 fully dedicated and selfless service to IFHIMA to date

(vi). Prof. Dr. G. D. Mogli of India (Served 9 nations since 1959 onwards known as “Father of Medical Records of India and the Middle East”, Founder of HIMA India in 1972 in JIPMER, Pondicherry and got affiliated with IFHIMA in 1976 in Toronto, Canada. He is known as Champion of Developing Countries (DC) by IFHIMA (World). Great organizer, educationist, and active with IFHIMA from 1976 participating and presenting papers in all the Congress till date. His 15 published books were used by DC and other developed countries. “Dr. Mogli’s Mirror” enlightens his work. www.drmogli.com

21. What was Prof. Dr. Mogli’s recent (2023) Global Achievement in Profession? He was selected as a member of the Academic Review Panel for the 2023 IFHIMA Congress to be held from 29 October to 1 November 2023 in Brisbane, Australia.

Joan Henderson, josn.hrnfrtdon@sydney.edu.au.>

To: gdmogli@yahoo.com Sep 12 at 2:01 PM

Dear Prof. G. D. Mogli,

The 2023 International Federation of Health Information Management Associations (IFHIMA) Congress is being hosted by the Health Information Management Association of Australia (HIMAA) in Brisbane, QLD, from **29 October to 1 November 2023**, in conjunction with the HIMAA National Conference. As Co-Chairs of the Congress Scientific Committee, *we are writing to invite you to please participate in the review process for abstract submissions, as a member of the Academic Review Panel.*

22. Who is the Father of Medical Records of India? Prof. Dr. G D Mogli, Ph.D. MBA FHRIM (UK) FAHIMA (USA) is called (the Father of Medical Records of India because of his contribution to Healthcare in general and HIM Field in particular for six decades since 1957 selflessly. He holds Three World Records: 1. Fellow of the USA-he is the only one outside of the USA in the entire World except for the US citizens, 2. He has a Fellow from the UK and the USA. None in the World has; 3. Dr. Mogli’s Mirror Challenged with the offer of US \$1000/- (One thousand dollars); if anyone from any part of the world has achieved more than Dr. Mogli can claim. The book was given to top Distinguished Professional members of 33 Countries of the World including top Global professional association members ‘International Federation of Health Information Management (IFHIMA) Past, Present, and Future Presidents. None could claim. He worked as Consultant to WHO and 9-plus Nations as a Sr. Consultant & Adviser to the Ministries of Health; in India, Afghanistan, Iran, Kuwait, Saudi Arabia, Oman, Bahrain, Qatar, and UAE. He received the highest awards from the USA, UK, and many other countries; participated and Presented Papers at 24 International Conferences, and hoisted Indian Flags in different Nations. Gave guest Lectures in 14 Overseas Counties. Published 131 papers in International Journals of Repute and published 17 books; used by many nations in the world; He had the opportunity to work closely with Health Ministers; and met the Highest Leaders in the world. e.g., Presidents, Prime-Ministers; Queens, and Princes of great nations: besides high professional around the globe; He is well known worldwide as the "Father of Medical Records of India and the Middle East" and Champion of Developing Countries by IFHIMA (World).

23. What is the Linkage of the Computer in the hospital? There should be an online linkage between the clinical and the supporting services of the outpatient department with the emergency department, inpatient wards, operation theatres, ICU, CCU, NICU, laboratory, radiology, pharmacy, blood bank, etc. Computers can help in identifying the causes that are health hazards, accurately diagnosing the patient's illness, contributing to providing efficient and timely care to the healthcare consumer, helping in carrying out scientific research to recognize the actual health problems, and providing swift, safe, and improved quality and cost contained care. If the organization has a group of hospitals or healthcare institutions located in the same or different cities can be linked to maintaining the unified concept of "One-patient; one record and one number".

24. Why the majority of hospital outpatient clinics are overcrowded and in chaos? The healthcare provider's focus should be on patients and their needs, and how best to meet those needs should be their target. If patients' needs are understood and efficiently addressed, the patient (the customer) feels satisfied. In the absence of aforesaid suggestions being met, the hospital will experience overcrowding, confusion, duplication, and delays, which will lead to chaos. All the managers would be kept extremely busy managing the crisis on a daily basis. With no way to emerge from the tangle, this becomes the workplace culture. Unless the real cause of the problems is identified and addressed, this will remain a perennial issue.

25. How to avoid the chaos of the hospital? If one spared some time to visit well-known major hospitals, they would see much the same situation everywhere. All the hospitals are crowded, but it doesn't signify that they are badly organized. If the patient flow is systematic and everyone entering the hospital is taken care of, then no one gets upset. But if the system is not properly organized, then even a few people can create a lot of problems and an unhealthy scene with a lot of dissatisfaction, which would keep the administration in constant defines mode.

XX Quality Assurance	
S. No	Question
1	What is Quality
2	When Quality Assurance Program should be implemented?
3	Where Quality assurance is applied?
4	What are the attributes applied for solutions to quality issues?
5	How Quality Assurance Program should be implemented?
6	What is Risk management?
7	What is Risk Management Program?
8	Whose responsibility is the risk management program?
9	What is Utilization Review Program?
10	What is Patient Care Evaluation?
11	Why do healthcare providers depend on the patient record?
12	What is Quality Assurance (QA)?
13	What is Quality Control?
14	What is Quantitative Analysis in Medical Records?
15	What is Qualitative Analysis in Medical Records?
16	What is Medical Audit?
17	What is a “Patient Care Review Meeting”?
18	What is Patient Care Evaluation?
19	What is the Formation of the Medical Record Committee?
20	What is the Role of the MRD Medical record committee?
21	What is the Role of the MRD in the Quality Assurance Program?
22	What is the Evaluation of Medical Records?

1. What is Quality assurance? Quality assurance encompasses the identification of the source and nature of the problem that needs to be resolved. Finding the solution to the problem and taking appropriate action for improvement. Proper policies and procedures are required for designing and taking remedial actions through appropriate methods, and implementation of those policies and monitoring of the methods applied to ensure that the measures are effectively addressed to solve the problem.

2. When Quality Assurance Program should be implemented? After analyzing the current status, one should determine how much change is necessary to remove deficiencies, and implement the program successfully it is necessary to develop a written plan, identify needed change; secure staff approval and support of the program, and plan for phasing the new quality assurance program

3. Where Quality assurance is applied? Quality assurance is also known as ‘quality improvement’ or ‘quality assessment’ or quality evaluation; this may be applied in healthcare institutions including hospitals, ambulatory care, general practitioners' offices, or settings. The criteria of quality assurance monitoring systems are flexible and applied in different methods depending on the type of problem, the problems could be similar type or can be different as such the solutions are also accordingly.

4. What are the attributes applied for solutions to quality issues? The following attributes applied for solutions need to be understood clearly. *Correctness*: This means the program

meets system specifications and user objectives. *Reliability*: This explains the degree to which the system performs its intended function over a period of time. *Efficiency*: The appropriate computer resources required by a program to perform an effective function. *Ease of use*: The process required to make the learning and operating the system. *Accuracy of use*: The input, edit, and output required precision in computation. *Portability*: Transporting a program from one hardware configuration to another easily. *Control and audit*: Effective organization of data, easy access for required audit. *Maintainability*: Ensuring the correctness of data by identifying errors and correcting them. *Expandability*: Adding, expanding, and modifying existing data effortlessly. The important elements of a quality assurance plan usually include *Design Review*: The objective is to evaluate by reviewing the correctness of requirements of system specifications, methodologies, and approaches used in the treatment of the patients.

5. How Quality Assurance Program should be implemented? Initial implementation should be simple and effective. The program can be extended gradually as the progress grows from infancy to maturity. A checklist containing all the organizational needs are noted before affecting the program.

6. What is Risk management? The risk management shall include liability prevention and control, claim management, and insurance management (to lower potential liabilities such as malpractice, workers' compensation, and general liability). There shall be a coordinated working relationship between risk management and quality assurance in the collection of data and its analysis in order to prospectively detect areas of risk to the hospital and to implement corrective actions to eliminate possible risks. Findings from risk management activities shall be utilized in educational opportunities.

7. What is Risk Management Program? The hospital shall have an organized risk management program hospital-wide; whose functions shall include the identification, evaluation, and treatment of the risk of liability to the hospital.

8. Whose responsibility is the risk management program? Responsibility for the risk management shall be delegated to a specified staff member or department. The staff involved in the program shall be qualified through appropriate training, education, and experience to carry out the assigned duties and report to the senior management level.

9. What is Utilization Review Program? Utilization review is a program in which the use of available facilities and services is measured. Its purpose is to assure the patient, that he received no more or less care than he needs (neither over-utilization nor underutilization) and assure that care received was medically necessary, delivered in the most economical way by using the least expensive facilities and services available in conformity to criteria of optimal use and determined by the physician's peer. This committee will review the appropriateness of admissions,

10. What is Patient Care Evaluation? With the support of technology, patient care evaluation could be carried out most effectively. Patient care evaluation is one of the great sources to improve the overall quality of patient care that is practiced for many years to provide the best possible care to patients.

11. Why do healthcare providers depend on the patient record? One has to observe that any good hospital or any credible healthcare provider will seek past information, if the patient

had any health problem earlier, as the record is like a mirror and barometer to indicate the factual patient's situation, in some cases, the patient himself or herself cannot express exactly their problem; especially the uneducated and mostly rural people. The patient's medical record is a mirror and reflects exactly what is done and recorded; enlightens the doctor and his inquiries with a variety of questions and examines the patient physically to elicit to reach the cause for ailment and if necessary carry investigations to confirm his own clinical diagnosis and treats the patient. The medical record is the mother of information that needs to be given proper respect by being documented meticulously either manually or electronically as it reflects like a "Mirror" so that in the absence of the same doctor, any other healthcare provider can understand and carry out the treatment without hindrance.

12. What is Quality Assurance (QA)? Quality assurance is any systematic process of determining whether a product or service meets specified requirements or set standards. . QA establishes and maintains set requirements for developing or manufacturing reliable products. The term quality assurance is a broad term that encompasses several components, among them utilization review, medical care evaluation, risk management, and peer review. From medical record maintenance in relation to patient care and medical record service point of view, the following are considered:

13. What is Quality Control? Quality control is defined as those evaluation procedures that are performed systematically to ensure that the established policies are being met. This procedure includes the quantitative and qualitative review of medical records; the evaluation of the patient care or medical audit.

14. What is Quantitative Analysis in Medical Records? Quantitative analysis is the review of medical records to ensure that they are complete and accurate and meet standards established for them by the medical record committee/ministry of Health. It is the responsibility of medical records and statistical personnel to perform this analysis regularly on inpatient (IP) and outpatient (OP) records.

15. What is Qualitative Analysis in Medical Records? Qualitative analysis is the review of records to ensure that it contains sufficient information to justify the diagnosis, the treatment, and end result. Opinions are supported by the findings and there are no discrepancies or errors. The qualitative review should be carried out regularly by the physicians at least once in a week and by the medical record committee once a month.

16. What is Medical Audit? Medical auditing is a systematic performance assessment within a healthcare organization. A medical audit is a systematic approach to peer review of medical care in order to identify opportunities. Medical Audit is **done primarily to determine the quality of the outcome**. Most healthcare elements can be audited, but many audits look at components of payer reimbursement processes to evaluate compliance with payer guidelines and federal and state regulations

17. What is a "Patient Care Review Meeting"? A patient care review meeting in the healthcare center preferably every month to discuss the patient care carried out by the hospital. The main object of this meeting is to review the overall work carried out in the departments including outpatient, inpatient, and emergency, and also to discuss the institutional deaths of the previous month. The attendees at this meeting should include all the clinical staff including seniors and juniors, the director of nursing, the medical record in charge, and a senior representative from each of the departments of pathology, biochemistry, and radiology. The director of the hospital should be the chairman of this meeting. He should

be very tactful in conducting this meeting because of sensitive topics. The medical secretary should take notes of important discussions during this meeting, and these notes might serve in the initiation of action for any important points brought out during the meeting.

18. What is Patient Care Evaluation? The purpose of patient care evaluation is to ensure that care of acceptable quality is being provided. The evaluation has to be done by physicians or other healthcare professionals through the review of medical records on a regular basis.

19. What is the Formation of the Medical Record Committee? There should be a medical record committee in all the hospitals to carry out a regular quantitative and qualitative analysis of hospital services.

20. What is the Role of the MRD Medical record committee? *M.R. Committee* serves as a liaison between the medical record department and medical staff. The function of the committee is to review medical records for adequacy and completeness and to determine whether the records meet the required standards for promptness, completeness, and clinical pertinence. To this end, the committee should recommend policies regarding the content and completion of medical records. Another important function of this committee is to design and develop suitable medical record forms. The committee must comprise the following members: 1. Hospital director (medical) or his representative, 2. Select one representative from each department, e.g. medical, surgical, obstetrics and gynecology, pediatrics, laboratory, radiology, nursing, and medical record officer as coordinator.

21. What is the Role of the MRD in the Quality Assurance Program? The MRD supports the hospital quality assurance activities related directly to the retrieval of medical records. It provides routine statistical and medical information for completion of reports and monitoring of adherence to procedures, to protect the privacy of patients and practitioners whose records are involved in quality assurance programs.

22. What is the Evaluation of Medical Records? Evaluation of medical record services should provide information on how effectively medical record services are being performed. How treated records especially discharged records are checked thoroughly for any deficiency and ensured to get completed by treating healthcare professionals. For example, how accurate is filing? What percentage of records of patients with appointments is in the clinic at the start of the clinic session? How accurate is the disease coding? How timely are reports being submitted? The medical record officer should evaluate the work and the medical record committee should assess and initiate action.

XXI Medical Records -Manual	
S. No	Question
1	Why Medical Records can Make or Break healthcare institutions?
2	Why there is a lack of properly organized and managed MRDs?
3	What a good record should reflect?
4	What is the Definition of a Medical Record?
5	What are the Ten Components of Medical Records?
6	What are the Five primary Components of Medical History?
7	What are Billing Records?
8	What are Three types of numerical filing systems?
9	What is the Terminal Digit Filing System?
10	What is the Middle Digit Filing System?
11	What is the Unit Numbering System?
12	What is Serial Unit Numbering System?
13	What is Problem-Oriented Medical Records (POMR)?
14	What are the Four parts of Problem Oriented Medical Records?
15	What are the four parts of a Patient Care Record of (POMR)?
16	What is SOAP in Problem-Oriented Medical Records (POMR)?
17	What is the difference between POMR and SOMR?
18	What is the Source Oriented Medical Records (SOMR)?
19	What is the Purpose of Medical Records?
20	What is the importance of Medical Records?
21	How record benefits to the patient?
22	How record benefits to the Physician?
23	How record benefits to the Healthcare Institution?
24	How record benefits to the Research Team?
25	How record benefits to the Teaching Program?
26	How record benefits the National Health Agencies?
27	How record benefits to International Health Organizations?
28	How record benefits to the Medico-legal purpose?
29	How record benefits the Insurance purpose?
30	How do record benefits to the Reimbursement purpose?
31	Can a Hospital deny the patient his medical record in India?
32	What are the needs for organizing and Managing MRD?
33	What are brief Standards for Medical Record Services?
34	What is Unit Medical Record System?
35	What is the responsibility of MRO in maintaining good medical records?
36	How to maintain the confidentiality of medical records?
37	Why write policies & procedures for the effective maintenance of medical records?
38	What is the Development of In-service training to MRD staff?
39	What is the Maintenance of Medical Records?
40	Who is responsible for the contents and maintenance of medical records?
41	How to improve Clinicians Documentation Skills?
42	What is Record Deficiency, Check List?
43	What is the Doctors' conference room?
44	What is the processing of inpatient records?

45	What is Ward Census?
46	What are the procedures for patient medical records sent to other hospitals?
47	What are the procedures for patient medical records received from other hospitals?
48	What is the procedure for registration of Births and Deaths/
49	What is the New-born (Live Birth)?
50	What is Multiple Births (Twins /Triplets etc.)?
51	What is Still-birth (Twins / Triplets)?
52	What is Foetal Death?
53	What procedure for submission of Birth Notification–born or alive or dead cases?
54	What is the procedure for the registration of Cancer Patients?
55	What is the procedure for Infectious Diseases?
56	What is the procedure for the issue of Medical Reports and Certificates?
57	What is the procedure for the collection of hospital statistics?
58	What is Outpatient statistics?
59	What is the A/E statistics?
60	What is the Inpatient statistics?
61	What is the Administrative statistics?
62	What is the Monthly Reports on Hospital statistics?
63	What is Preservation of Old Records?
64	What is Retention of Records?
65	What is Medical Record Retention Schedule?
66	What is the Retention and Preservation Schedule?
67	What is Technology Dynamism?
68	What is the Purging and Destruction of Records?
69	What is Data Integrity?
70	What is Health Record Access Control?
71	What is Audit Trail?
72	What is Disaster Recovery?
73	What is the Definition of MLC?
74	What types of cases are considered as MLCs?
75	Why the Police should be intimated in MLC cases?
76	Why Court rely on Medical Records?
77	What is the Impact of the Consumer Protection Act on the Medical Field?
78	Who is Consumer?
79	Why the Consumer Protection Act?
80	What is Service?
81	What is Deficiency?
82	What are Medical Practice / Negligence?
83	How long Medical Records should be preserved?
84	What is Consumer Protection Act 1986?
85	What are the Medical Council of India guidelines?
86	What is the preservation period for Legal cases?
87	What is the State Record Retention Requirements?
88	What is Medico-legal Cases?
89	What is a Medico-legal register?
90	What are the Legal Aspects of Electronic Health Records?
91	What is Authentication for legal admissibility?

92	What is Testifying about Admissibility?
93	What is Authorship?
94	What is the Authentication of entries?
95	What type of signatures is valid?
96	Whether Rubber Stamp signature is accepted?
97	Whether Initials are permitted?
98	Whether Fax signatures are accepted?
99	Whether Electronic Signature is accepted?
100	Whether Digital signature is protected?
101	What are other Documentation Issues?
102	What are cut, copy, and paste functionality problems?
103	Why link with one patient, one record and one number?
104	Why the chronological, and timeliness of each entry?
105	Why Date and Time should be on each form?
106	What rules apply to Imaged records?
107	What is the Retraction of Records?
108	What rules are to be followed for late entry?
109	What rules are to be observed for Amendments?
110	What is Decision Support?
111	What is Notification and Communication with patients or family?
112	What is Electronic Consent?
113	What policy and managing data from the patient and from other facilities?
114	What Legal Challenges does E.H.R bring?
115	What is a Personal Document?
116	What is an Impersonal Document?
117	When the permission from the treating physician required by other doctors?
118	What is Informed Consent?
119	What is Informed Special Consent?
120	What is Confidentiality?
121	Who are the authorized staffs?
122	What information can be released without the patient's permission?
123	Who is the owner of medical records and health information?
124	What is the Security of Medical Records?
125	What are Security, Privacy and Confidentiality?
126	What is Control of Medical Record Forms?
127	What is Accident & Emergency Service?
128	What is the completion of Records?
129	Whether the MRD is responsible to supply records?
130	What are the registers to be maintained- manual and computerized system?
131	What Outpatient Register should contain?
132	What A/E Register should contain?
133	What MLC Register should contain?
134	What Admission Register should contain?
135	What Waiting List Register should contain?
136	What Ward Admission & Discharge Register should contain?
137	What Operation Register should contain?
138	What Anaesthesia Register should contain?

139	What Birth Register should contain?
140	What Death Register should contain?
141	What Central Cancer Register contain?
142	What General Instructions should be observed to keep the complete record?
143	What are the Rights of a Patient?
144	What are the Responsibilities of a Patient?
145	What is Bed Compliment?
146	What is Maximum Bed Capacity?
147	What Beds should be included in the Bed Complement?
148	What Beds shouldn't be included in the bed complement?
149	What permanent changes affect the bed complement?
150	What changes do not affect bed complement?
151	What is Day Care Surgery?
152	What is Outpatient Surgery?
153	What is Day Care and Bed Occupancy?
154	What is an exception to the general rule of inpatient admission?
155	Where Bed occupancy rules may not apply to all the departments?
156	What is Bed Occupancy Rate without Day Care Cases?
157	What is Bed Occupancy Rate with Day Care Cases?
158	What is the Concept of Day Care?
159	What is Mogli's Ready Reckoner?
160	How we can get benefit from Mogli's Ready Reckoner?
161	Why and Who Needs the Information?
162	Who are the customers and What type of information is required?
163	What is HIM's Professional Role?
164	How many categories of Health Information Professionals?
165	What Qualities a Leader should have especially with reference to HIM?
166	How the HIM can Outshine in his organization?
167	Why we need a Professional Association?
168	When the National Medical Record Associations of born Globally?
169	Who Formed HIMA India and Got the IFHIMA Affiliation and When?
170	Who and When Celebrated the 50 Years of the Golden Jubilee of HIMA India?
171	How to practically conduct an Int. Conference including Two Workshops?
172	How to Conduct a Workshop?
173	Who Dedicated Decades of Service to the HIM Profession Globally?
174	What was Dr. Mogli's recent (2023) Global Achievement?
175	When was First International Congress on Health Records held?
176	Who was responsible for creating Int. Federation of Medical Records?
177	When the Int. Federation of Medical Records (IFMRO) was born?
178	What are the main objectives of IFHIMA?
179	What is an Accreditation?
180	What is the role of HIM in Hospital Accreditation?
181	What is the Patient Safety?
182	What is Healthcare Error?
183	What are common misconceptions about adverse events?
184	What are potential causes related to patient dislike?
185	What is Patient Flow?

186	What are Patient Flow problems in the hospital?
187	What is the role of Medical Records in Healthcare Institutions?
188	Why need for a reputable expert who could identify problems and provide suitable solutions?
189	What is Health Information Management System (HIMS)?
190	How the HIM make employees robust?

1. Why Medical Records can make or break healthcare institutions? When we discuss the topic of proper maintenance of medical records and their role in efficient healthcare, one striking remark is that medical records were the “Mother of Health Information” and they could “Make or Break” a health institution. For example, a well-organized and efficiently managed medical record department guided the hospital, leading to the smooth functioning of the institution. Otherwise, the management might generate excellent infrastructure including modern gadgets, and recruit highly qualified and experienced personnel, but if the Medical Record Department (MRD) was in poor shape or not properly organized with properly qualified staff, the system of the hospital was bound to collapse. There would be daily chaos in the outpatient and emergency departments, and also in the inpatient wards. This, in turn, led to inefficient and poor quality patient care, too much duplication in all the fields, and wasted efforts from everyone—at additional expenditure to the exchequer. It also led to dissatisfaction among policy and decision-makers who had invested huge amounts of money and effort, and the outcome would be poor. While the hospital management and the healthcare providers (including doctors, nurses, and other paramedics) would be spending more time carrying out the work, the paltry results would demotivate everyone and the ultimate result would be a bad reputation for the hospital.

2. Why there is a lack of properly organized and managed MRDs? In some countries, the Ministry of Health (MOH) and especially the corporate hospitals established many health institutions on par with international standards or to be precise, the US or UK standards, and although the hospitals managed by the MOH had recruited highly qualified professionals and the system followed on par with the international standards, there was chaos and crowding in the outpatient areas, and managing them was difficult. Also, there were some flaws in the MRD which hampered the integrity of the proper maintenance of the medical record system. They never realized the underlying cause for the condition until an accreditation need arises such as the Joint Commission on International (JCI). The organizations start improving the standards of the hospital to invite the JCI to inspect. The JCI during their meticulous inspection find despite meeting their required standards in other departments, most of the hospitals fail in the maintenance of medical records which author pointed out that the medical record is the mother of information like a “mirror” that reflects exactly the patient care services rendered and that is not found, then the need for well-organized and efficiently managed medical records department becomes indispensable

3. What a good record should reflect? To be precise, the record should reflect what health condition the patient came to and what was done, and in what condition the patient returned. It is hard to mention until the system should convert into numerical figures e.g. such as the patient came with 30% problems and after treatment, the patient left with 0% or 10%. An ordinary person can understand that the patient is fully recovered (0%) or 20% of problems have been reduced and so on. Instead, the hospital uses the terminology as recovered, cured, improved, status-quo, or others and died

4. What is the Definition of a Medical Record? As defined by Dr. Mogli “The medical record is an orderly written report of the patient, contains identification data, history, physical, progress notes, lab, radiology findings, diagnosis, treatment including medical and surgical and course when complete it should contain sufficient data to justify the investigations, diagnosis, treatment, length of stay, and end result. Each medical record reveals information, always centered on a patient (who may be a man, woman, or child). In other words, the medical record can be defined as the What, Where, When, Who, How, and Why of patient care”.

5. What are the Ten Components of Medical Records? Identification Information; Consent form; Medical History; Family history; Physical examination; Progress notes; Lab, radiology, and other Investigation findings; Diagnosis; treatment including medical, surgical, and medication; Length of stay and end results.

6. What are the five primary Components of Medical History? In general, a medical history includes an inquiry into the patient's medical history, past surgical history, family medical history, social history, allergies, and medications the patient is taking or may have recently stopped taking.

7. What are Billing Records? Billing records are an important part of hospital profitability, productivity, and efficiency. That's why they're one of the key components of an EHR system as they can track all the charges that a patient occurs while undergoing care.

8. What are three types of numerical filing systems? There are three types of numerical filing systems that are utilized in healthcare; straight or consecutive numeric filing, terminal digit or reverse, and middle digit. The straight filing system is also referred to as the consecutive filing system.

9. What is the Terminal Digit Filing System? The system of filing records is terminal digit filing. Definitions: Terminal digit order: A system of filing using a six-digit number (or higher) that is divided into three parts, whereby the last two digits are considered primary. Primary digits: The last two digits to the right of the number.

10. What is the Middle Digit Filing System? Middle-digit order is the method of filing the records in which the organization or the facility chose to segment the records by referring to the middle digits as primary numbers, the first digits as secondary, and then checking the last digits.

11. What is the Unit Numbering System? A unit numbering system is a system whereby the patient is provided with a single medical number in every admission to the facility. The concept of one patient will have; One-patient-one number and one record for all the services rendered in the outpatient, emergency, and inpatient. The same record is retained for years and. available with all reports in tact in chronological order for continuity of patient care by physicians, medical education, research, hospital; insurance, and medico-legal; national, and international health agencies.

12. What is Serial Unit Numbering System? Although each time the patient is registered he receives a new medical record number, his previous record is continually brought forward and filed under the latest issued number.

13. What is Problem Oriented Records (POMR)? The POMR is a medical record approach that provides a quick and structured acquisition of the patient's history. The special features of this system are to deal by listing all patient health problems, and ensuring that each problem was taken care of as a treatment. It was born in the late sixties. Expecting an ordered, complete, and updated medical record were some of the goals.

14. What are the four parts of Problem-Oriented Medical Record (POMR)? The data regarding the patient's exams, mental status, history, etc., and the problems the patient is facing. A treatment plan based on each problem and the progress notes according to each problem and the response of the patient to each course of treatment.

15. What are the four parts of a Patient Care Record of (POMR)? A form of patient-care record that has four components: (a) a database of standardized information on a patient's history, physical examination, mental status, and so forth; (b) a list of the patient's problems, drawn from the database; (c) a treatment plan for each problem; and (d) progress notes as related to the case.

16. What is SOAP in Problem-Oriented Medical Records (POMR)? Subjective, Objective, Assessment and Plan commonly known as SOAP; in progress notes of POMR should adhere to a structure with five elements: Subjective, Objective, Rx, Interpretation, and Plan

17. What is the difference between POMR and SOMR? The difference between a POMR and a SOMR is in the POMR system; lists all the patient's problems in numerical order while in Source-Oriented Medical Records- groups formed according to their source medical and nursing records grouped in chronological order; start with the first sheet comprising patient full identification data; provisional diagnosis; history, physical examination; progress notes; investigations including laboratories, radiology, ECG, EEG, etc. diagnosis, Anesthesia and surgical procedures followed by nursing records and finally discharge summary.

18. What is a Source Oriented Medical Record (SOMR)? In Source-Oriented Medical Records- groups formed according to their source medical and nursing records grouped in chronological order; start with the first sheet comprising patient full identification data; provisional diagnosis; history, physical examination; progress notes; investigations including laboratories, radiology, ECG, EEG, etc. diagnosis, Anesthesia and surgical procedures followed by nursing records and finally discharge summary. The majority of the hospitals in the world use this system; as the system is very popular.

19. What is the purpose of the Medical Records? Medical records provide documentary evidence of a patient's healthcare information. Though there is universal acceptance of the importance of medical records, there is a disparity in their application among various nations and systems primarily owing to the differences in cultural and legal frameworks. It helps doctors and care giver's to minutely assess and give the best medical facilities to the patient. In addition, a patient's medical history allows him/her to take steps to reduce his or her risk. The medical records should be:

- To provide a means of communication among all authorized healthcare providers
- To serve as an easy reference for providing continuity in patient care
- To furnish documentary evidence of care provided in the healthcare facility
- To serve as an informational document to assist in the quality review of patient care

- To protect the patient, physician, hospital, and others in the event of litigation
- To render clinical and administrative data for administrative, financial and other purposes
- To supply pertinent patient care information to authorized organizations and third-party payers.
- To protect and ensure the security of information, confidentiality, the privacy of patient information

20. What is the Importance of Medical Records? The records are valuable to many individuals and groups: (i) patients; (ii) physicians; (iii) health care; institutions; (iv) research teams; (v) the teaching program; (vi) national health agencies; and (vii) international health organizations, (viii) medico-legal purpose; (ix) insurance; (x) reimburse payment, etc.

21. How record benefits to the Patient? The record benefits the patient the following ways.

- Present and past state of health
- Analysis of present illness in terms of diagnosis and prognosis
- Consultation opinion
- Serve as a reference
- Accessibility of old records for a physician to review and analyze previous illness
- Quick treatment- reducing the length of stay
- Allergies and drug reactions are noted
- Previous surgical procedures are recorded and patient education is noted
- Protect from over-prescription, unnecessary surgical exploration, and repetition of investigations
- Protect from legal action
- Assist kith and kin in settling property litigation
- Obtaining blood group
- Obtaining medical certificates, such as birth, death, insurance, and so forth

22. How record benefits to the Physician? The record benefits the patient in the following ways. Yields information about previous treatment, reactions, allergies, drugs, investigations, methods of treatment, and results of care

- Suggests newer lines of investigation and treatment
- Evaluation of drugs for their clinical effect
- Information about the availability of newer drugs for patients
- Comparative studies
- Medico-legal concerns
- Teaching and research

23. How record benefits to the Healthcare Institution? The record benefits the patient in the following ways.

- Evaluation of the competency of the medical, nursing, and ancillary staff (Quality Assurance)
- Justifying the investigations, diagnosis, and results of treatment
- Medico-legal Purpose and Defense in malpractice suits
- The basis for preparing operating budgets
- Administrative control over functional activities

- The basis for distribution of expenses when computing costs of operation
- Statistical data for controlling bed allocation, infection, mortality rates, and length of stay
- Planning-additional facilities, staff, and equipment, improving medical education and patient care

24. How record benefits to the Research Team? The record benefits the patient the following ways.

- Medical Science is dynamic, with new techniques, new methods, , and new medications
- Conduct research to meet their own country's needs
- Research results are shared by others
- Each country has its own health problems
- Medical records of present and past help in concurrent, prospective, and retrospective research
- Learns simple and better ways to deal with problems
- Control health care costs
- Find better drugs and techniques for swift, safe, and improved quality care
- Improve the quality of services

25. How record benefits to the Teaching Program? The record benefits the patient the following ways.

- Essential for medical education
- Medical students require a lot of practical training besides theoretical classes
- Art of history taking, physical examination, and writing treatment notes as clinical practice
- The teacher is able to teach and guide better with better teaching methods
- Students learn the techniques and methods of a teacher in his /her absence
- Learn the traits of a teacher through a well-documented record
- Care providers, teachers, and students learn from recording their mistakes
- Records are full of documented facts of life cases, which are better than a written textbook
- Undergraduates and postgraduates benefit

26. How record benefits the National Health Agencies? The record benefits the patient the following ways.

- Depending on the information for the prevention and control of diseases
- Allocate budget, staff, and equipment
- Plan and construct hospitals and health centers in required locations
- Determine the type of health services required to control morbidity & mortality
- Monitor all hospitals and health institutions
- Exchange expertise from other nations
- Collaborate with international organizations
- Develop medical and allied health service education

27. How record benefits to International Health Organizations? The record benefits the patient in the following ways. The Int. Health Organization is responsible for assisting and guiding nations.

- Control of infectious diseases and epidemics
- Provide assistance to needy nations by accepting from surplus states.
- Exchange experts and specialists
- Send medical supplies and other items to needy countries
- Need reliable information from all countries to achieve global healthier living

28. How record benefits to the Medico-legal purpose? The record benefits the court of law; in the following ways. Medical records are acceptable as per Section 3 of the Indian Evidence Act, 1872 amended in 1961 in a court of law. These are considered useful evidence by the courts as it is accepted that documentation of facts during the course of treatment of a patient is genuine and unbiased. “Dr. Mogli states that the Medical Records are the Mother of Information, and is a clean “Mirror” will reflect what, where, why, who, and how care was rendered to the patient, and provide documentary evidence of a patient's healthcare information”. “Dr. Mogli further states that If not recorded then it is not done”. Medical records are often used as a basis for defense / legal protection for doctors. Medical records are files containing records and documents about patients' identities, examination results, treatment programs, and other medical measures in healthcare facilities.

Medical Records are the single most important document that can be used in medico-legal cases. In a few cases, these documents may serve as an effective alibi for the patients. Law is very clear regarding the medical records and their value of it and all cases of accidents, burns, assaults, alleged suicide or homicide, poisoning, road traffic accident, rape, drowning, etc. shall be registered as medico-legal cases (MLC). Medico-Legal Certificate also called MLC is required in cases of accident or an incident which has led to injury or death. Hospitals have an MLC register wherein accident/ assault/poisoning/burn cases are registered by hospital authorities strives to provide a welfare State with socialist patterns of society. In case of medical-legal issues, any clinical or administrative reason doesn't allow.

29. How record benefits to the Insurance purpose? The record benefits the Insurance Company in the following ways. Insurance companies use a process called underwriting to gather data about an applicant and assess the risk involved in offering them a policy. Reviewing an applicant's medical records helps insurance companies determine how likely the applicant will make a claim in the future. After treatment of discharge; the insurance companies need to study the entire case sheet to ensure that whatever services are provided is within their insurance company policies and payment procedures and the eligibility of the patient or insured person so that they can calculate and settle the case. For insurance companies, the patient record is a highly essential tool for settling the case swiftly and prudently.

30. How record benefits to the Reimbursement purpose? The record benefits for reimbursement in the following ways. A well-documented medical record can facilitate effective revenue cycle processes, expedite payment, reduce any “hassles” associated with claims processing, and ensure appropriate reimbursement.

31. Can a hospital deny to the patient his medical records in India? No, it is obligatory for doctors and hospitals to provide a copy of the case record or medical record to the patient

or his legal representative. The preamble to the Constitution of India coupled with the Directive Principles of State Policy

32. What are the needs for organizing and Managing MRD? The primary function of a hospital is the care of the sick and injured. The hospital administrator is legally and morally responsible for the quality of medical care rendered to patients. Therefore, the medical records in charge have a very important role to play in the effective and efficient management of hospital services. The main needs of the medical records department (MRD): The needs depend on the overall responsibilities and functions of the department. The following organizational needs have to be met before we could put the department into operation:

- Planning, setting up, organizing and managing of the MRD
- Promoting and obtaining good medical records
- Cooperation with all the departments in the matter of records
- Complete medical record control
- Assist in medical records, QA, and other committees
 - Prepare statistical reports and assist in research and teaching programs.
 - c. Location and layout
 - d. Personnel
 - e. Equipment
 - f. Good quality medical record forms (according to international Standards)
- g. Budget and budgetary control
- h. Interdepartmental relationship
- i. Organizational chart of the department
- j. Work distribution chart
- k. Line, staff, and functional authority
- l. Operational policy:
 - Working hours—shift
 - Monthly duty roster (schedule)
 - Implementation of instructions
 - Training of new staff
 - Submission of reports
 - Supplies
 - Communications
- Transportation of medical records
- Housekeeping and physical examination
- Hotel services
 - Protection from fire
 - Safety control
- Infection control
 - Disaster and emergency plan.

33. What are brief Standards for Medical Records Services? The health institution must maintain medical records that are documented accurately, relevantly, and in a timely manner and are complete and readily accessible for prompt retrieval of information including statistical data. Adequate patient case records must be maintained for all outpatients, inpatients, and emergency patients. All significant clinical information pertaining to the patient must be incorporated into the patient's medical record. The content of the medical records must be sufficiently detailed and organized to enable the medical care team responsible for the patient to provide continuity of care, to determine at any time the status of

the patient, and to review the diagnostic and therapeutic procedures performed and the patient's responses to treatment. The discharge summary must be written at the termination of hospitalization. The patient's health record must contain sufficient information to identify the patient, support the diagnosis, and justify the treatment and end result.

34. What is Unit Medical Record System? The *unit medical record* system with “*one patient one number one record*” is the ideal method to achieve optimal healthcare data, and should be a goal for all healthcare facilities. It is important that the Patient's full name is spelled correctly in the record. Presently, however, many healthcare institutions in developing countries including India still would not be able to implement the unit record because this system demands adequate equipment, sufficient space, and trained personnel in order to function properly.

35. What is the responsibility of MRO in maintaining good medical records? A good medical record must contain at least the following:

- a. Complete and accurate identification data including hospital number, Patient's full name, age (date of birth), gender, nationality, national ID number, marital status, occupation, place of birth, address and Telephone number, and next of kin's name and address including Telephone Number.
- b. Evidence of appropriate informed consent.
- c. Reports of all diagnostic and therapeutic procedures.
- d. Reports of pathology and clinical laboratory examinations, radiology , and nuclear medicine examinations.
- e. Progress notes.

36. How to maintain the confidentiality of medical records? The Medical Records Officer's responsibility is to keep records confidential, secured, current, authenticated, legible, and complete. The medical record is the property of the health institution and is maintained for the benefit of the patient, the medical staff, and the health center. The health institution is responsible for safeguarding both the record and the information contained within it against loss, defacement, tampering, or use by unauthorized individuals. Medical records are to be retained a minimum of 5 years of Inpatient records from the date of discharge, and outpatient records are to be retained a minimum of 3 years from the date of the last visit. A/E records are to be retained for a minimum of 1 year. The ML cases if it is in the court - till the case is settled or observe IP, OP, or A/E applied rules.

37. Why write policies and procedures for the effective maintenance of medical records? The M.R. policies and procedures in commensurate with the overall policies of the health care facility should be made available to all concerned. The medical record department must be provided with adequate direction, staffing, and facilities to perform essential functions. The medical record department must be provided with sufficient space and equipment to enable personnel to function in an effective manner and to maintain patient health records that are readily available for the continuity of patient care. Basic medical statistical information must be readily obtainable through the medical record department with the type and amount to be determined by the medical staff and hospital administration, as well as by governmental authorities.

38. What is the Development of In-service training to MRD staff? The medical record officer should encourage staff development through in-service training. The performance of

medical record workers should be evaluated periodically to seek ways to improve medical record services. The role of the medical record staff in quality assurance and utilization review functions and committee functions must be clearly formulated with screening patient records for compliance with established criteria. The medical record service should participate in the selection and design of forms used and in the determination of the sequence and format of the contents of the medical record. This department also should have a role in developing mechanisms to protect the privacy of the patients and practitioners whose records are involved in quality assurance activities. Similarly, if the hospital is computerized the MRO should in cooperation with the IT department and the healthcare providers suggest proper Computerized screens to meet the need of healthcare providers; as well as MLCs, Insurance, medical education, research, and national and international health agencies.

39. What is the Maintenance of Medical Records? It is the responsibility of the medical records department which is under the control of a qualified medical record officer. The MRD initiates records of outpatients, emergency, and inpatients and processes them for completion, and collects health information to assist in patient care, quality assurance, medical education, research, and administrative activities. Protection from unauthorized persons and the safe preservation of medical records and information is one of the major responsibilities of the medical record department.

40. Who is responsible for the contents and maintenance of medical records? The medical, nursing, and paramedical staffs are responsible for the contents of the records.

Content	Staff	Responsibilities
	MRD staff	For a collection of complete and accurate identification data
	Medical staff	For clinical data in all records related to medical staff
	Nursing staff	For the data related to nursing records
	Para-medical staff	For the data of allied paramedical units to their respective records
Maintenance And completion of Medical Records	MRD staff	<ol style="list-style-type: none"> 1. Collection of complete and accurate patient identification data. 2. To collect the ward census and the discharged patients' files (whether completed or incomplete) from all the wards daily. A due register to be maintained for those patients' files needed to be retained in the ward after discharge for any authenticated administrative purpose. In a computerized system, screen formats are accurately completed in a timely manner and ensure complete and relevant information is secured. 3. All medical records including patient file registers, index cards, etc. relating to patient care have to be maintained by the medical record department. The old registers from all the departments of the hospital should also be collected and preserved in a systemic manner. Ensure the computerized

		information is fully secured and safeguarded.
	Medical Staff	<p>1. All doctors have to complete the patient's file before the discharge of the patient wherever possible. However, all the discharged records will be checked for deficiencies by inserting a prescribed deficiency check slip by the MRD without any exception as a part of health institution policy. Hence, all the unit doctors have to visit the doctors' conference room in MRD once in a week to review all the discharge records for completion. No patient's record should be kept incomplete for more than a week.</p> <p>2. The head of the unit is responsible for clinical content and its accuracy and completeness. Physicians should use only approved medical abbreviations and symbols and should check that each page contains the patient's name and hospital number. He should sign all entries with a date. Even though assistant doctors might help; the completion of records responsibility rests with the Treating doctor (or doctor under whose care was admitted the patient).</p>
	Nursing staff	<p>1. All the discharged patients' records should be handed over to the MRD while submitting the census on the very next day. No patient's record should be retained in the ward for not more than 48 hours from the date and time of discharge.</p> <p>2. Nursing staff should ensure that each page contains the patient's name, hospital number, and dates in chronological order.</p> <p>3. All lab reports received during the patient's stay in the ward are to be mounted then and therein the appropriate patient record. If any lab report is received after the discharge, it should be sent to the MRD promptly without fail.</p> <p>4. The outpatient, A and E, and daycare patients' records must be returned to MRD without fail. No records should be retained in the clinic after the consultation is completed.</p>
	Para-Medical Staff	Other staff (other than medical and nursing) especially the paramedical workers are responsible for the proper recording of the data relating to the treatment of their specialty patients.

41. How to Improve Clinician's Documentation Skills? There are several ways to help clinicians improve their documentation skills. Develop hospital medical record policies; and make hospital standardization; make sure that clinicians are focusing on clear and concise

communications that will benefit other readers of the medical records. Make it a routine practice of regular review of records and encounters; with current EMRs, as this is often a simple process. Some health records even allow you to view records from other facilities on the same system. The best and most practical acceptable practice the Peer support as none will understand the ins and outs of documentation quite like other clinicians. Pinpoint excellent documenters as go-to experts for questions and concerns. Peer-to-peer support of documentation will increase standardization and productivity. The Medical Records Officer is to provide regular and continuous orientation on the proper completion of documents to ensure recording; timely, relevantly, accurately, and completely. A sample of well-maintained or good records can be shown to all the physicians to have a

42. What is Record Deficiency, Check List? A sample Deficiency checklist is given below to check each and every discharged record on a daily basis and ensure the record is completed by the concerned healthcare provider or treating doctors.

DEFICIENCY CHECKLIST
(*medical record Department*)

Patient's Name:		H. No.	Date:
Treating Physician:		Unit:	
Final Diagnosis:			
Sig. of Unit Head:			
Discharge Summary:			
History:			
Physical:			
Consultation:			
Lab. Reports:			
X-ray Reports:			
Anesthesia:			
Operation Record:			
Progress Record:			
Physician Orders:			
Result:			
Cause of Death:			
Important: According to specialty hospitals- additional forms can be added as required to check:			
Sig. of Deficiency Check Technician (MRT):			
Completed by Physician:			
Signature of Physician:			
Deficiency Completed Date:			

43. What is the Doctors' conference room? As a hospital and medical record policy, the healthcare providers especially the treating unit head or chief should along with his entire team visit on a weekly basis to ensure that all the discharged records of their unit are completed in all aspects. For the benefit and convenience of the treating unit doctor, the room or place on the scheduled date and time is reserved in the MRD; so that they can complete

their work without any disturbance. This is a great opportunity for the head of the unit; while reviewing the records; any mistakes committed by juniors can be educated to improve not only the completion of records but in patient care aspect too. A sample copy of time table is given below:

Time Table for Doctors Conference Room:

Day/Time	7:30 8:30	8:30 9:30	9:30 10:30	10:30 11:30	11:30 12:30	1:00 2:00	2:00 3:00	3:00 4:00
MON.		MED				NEUR		
TUE.							PED-SURG	
WED.			SUR					
THU.				PED				
FRI.		CARD			OBST			
SAT.						ORTHO		

44. What is the processing of inpatient records? This means all the discharged records received from the ward are assembled in proper prescribed chronological order, check for incomplete records for their content deficiencies; get them completed, collect statistics, code the records as per the latest ICD, and coded for operations and indexing by manually or electronically and re-check to ensure the record is complete in all aspect prior to final filing.

45. What is Ward Census? A sample of the Ward Census is furnished below; is prepared by the ward nurse at the end of the day preferably immediately after midnight; the number of previous days remained patients; the number of admissions, transfers-in or transfers out or discharges or death and remaining of adults and children, etc. A clerk from the MRD will be responsible to collect the daily ward census and the discharged patient files (whether complete or incomplete) from the ward daily. Any file of a discharged patient if required to be retained in the ward due to any special reason, the nurse in charge will have to acknowledge. However, the same should be returned within 48 hours. Most of the MRD expects the Nursing staff to get the records completed by the doctors; instead of that the MRO should have a strict hospital policy that the records are completed prior to discharge of patient except in extraordinary cases can be delayed for 48 hours. If this method is not observed; one will experience too many incomplete records and later completion with the right information will be difficult. In case of Insurance settlement cases; patient records are scanned and a copy is retained with them. If the doctors complete the records later, there will be variations in both records. This practice will lead to administrative and legal issues.

46. What are the procedures for patient medical records sent to other hospitals? As a routine, a patient file from one hospital is not sent to another hospital. However, a detailed discharge summary may be supplied to the treating doctor. In exceptional cases, a photocopy of the entire file is supplied and the original file will be retained in the record-originated hospital.

47. What are the procedures for patient medical records received from other hospitals? If any patient file from another hospital is received for the treatment of the patient, all relevant information should be noted in the current record of the treating hospital. Once the purpose is over, the file including reports (X-ray, laboratory, etc.) should be returned to the concerned hospital. In any case, the file should not be retained after the discharge/death of the patient.

48. What is the procedure for registration of Births and Deaths? The hospital should maintain three separate registers for births, deaths, and fetal deaths. Necessary entries for live births, stillbirths, fetal deaths, and deaths, as they occur must be made in respective registers as per the rules laid down by the Government.

49. What is a New-born (Live Birth)? New-born should be registered as a new patient baby girl of (BG/O) or baby boy (BB/O) followed by the mother's name and a new hospital number to be allocated with a separate patient file created. However, a cross-reference of the mother's hospital number in the child's files and the child's number in the mother's file should be entered. Similarly, cross-reference entries have to be made in the mother's and child's patient master index cards.

50. What is Multiple Births (Twins/Triplets, etc.)? Each live-born child must be registered as a new patient (BG1/O or BB2/O followed by mother name) and a new file to be created. The firstborn child will get the first hospital number.

51. What is Still-birth (Dead Born)? *In stillborn* cases, the birth notification issued by the doctor should form a record. However, no patient file should be opened and no hospital number to be allocated.

52. What is Foetal Death? Death prior to the expulsion or extraction from its mother of a product of conception, irrespective of the duration of the pregnancy; the death is indicated by the fact that after such separation, the foetus does not breathe or show any other evidence of life such as the beating of heart, pulsation of the umbilical cord, or definite movement of voluntary muscles. There should be a separate foetal death register to record all foetal deaths.

53. What procedure for submission of Birth Notification—born or alive or dead cases? Birth notification for born alive and dead in prescribed forms (recommended by Government) duly signed by the medical officer who had conducted the delivery should be prepared in triplicate and submitted to:

- The parents/relatives.
- The hospital patient's medical record.
- The birth registrar (concerned authority for registration).

Death notification in triplicate in the prescribed form has to be prepared and signed by the treating doctor and counter-signed by the unit head and submitted to:

- The nearest relative of the diseased.
- The hospital patient's medical record.
- The death registrar (concerned authority).
- The hospital should maintain one central death register in MRD in which all hospital deaths, including OP, IP, and A/E - brought dead to be registered with accurate and complete information.

54. What is the procedure for the Registration of Cancer Patients? A central cancer register must be maintained in each hospital. All proven malignant cases as recommended by ICD (WHO) should be registered and a separate cancer register number to be allocated in the patient file in addition to the hospital number. All the cancer cases registered will have to be classified in accordance with the recommendation made by the national cancer center. Refer to the guidelines provided by the national cancer center for more details.

55. What is the procedure for Reporting Infectious Diseases? It is the responsibility of each department to notify the admission and treatment of infectious disease cases in the prescribed form recommended by the hospital to the public health department. Refer to the guidelines provided by the public health department for more details.

56. What is the procedure for the Issue of Medical Reports and Certificates? Any request for a medical report or certificate has to be routed through the hospital administration/MRD. The treating doctor will prepare and issue a medical report or certificate to the patient or his representative or any organization through the MRD/hospital administration. An original copy of the medical report/certificate will be given to the patient and the copy is kept in the patient file.

57. What are the procedures for the collection of hospital statistics? All hospitals should collect and compile different types of statistics as recommended by the Ministry of Health or your own Hospital on a regular basis. Some of the essential statistics to be collected are as follows:

58. What is Outpatient Statistics? Outpatient statistics include new, follow-up, and total cases; according to sex (male, female, and children), and nationality. Statistics to be classified according to service/unit, geographical distribution, age group—less than 1, 1 to 4, 5 to 14, 15 to 24, 25 to 34, 35 to 44, 45 to 54, 55 to 64, 65 to 74, 75 and above.

- Number of investigations carried out, e.g. pathology, microbiology, biochemistry, radiology, ECG, EEG, and other departments (specify).
- Outpatient disease and operation statistics have to be prepared.

59. What is the A/E statistics? Emergency service statistics include; Total number of cases seen in the emergency service and classification according to sex (male, female, and children), the number of cases referred to OPD, and PHC. A number of cases were admitted to the hospital and a number of medico-legal cases were treated (accidental, suicidal, homicidal, traffic accidents, burn, and poison cases).

60. What is the Inpatient statistics? Inpatient statistics include daily census reports of admitted and discharged cases of general and private wards.

- Discharges according to service by nationality, sex (male, female, and children), age group—less than 1, 1 to 4, 5 to 14, 15 to 24, 25 to 34, 35 to 44, 45 to 54, 55 to 64, 65 to 74, 75 and above, discharge results—alive, dead, death classification—less than 48 hours and more than 48 hours.
- Bed utilization* (general and private separately): Bed days, bed occupied, and bed occupancy rate.
- Inpatient diagnosis and operation classification statistics have to be calculated.
- Number of consultations received and rendered.
- Surgical procedures according to different services: number of elective operations, emergency operations, minor, intermediate, and major operations performed.
- Investigations*: Number of pathology, microbiology, biochemistry, radiology, ECG, EEG, and other tests conducted.
- Deliveries conducted*: Number of normal and abnormal deliveries.
- Births*: Number of live births, mature, premature, and stillbirths.

- Death statistics:* Should be presented in the following statements: S no, name, hospital no, service, nationality, age, sex, duration – 48 hours, +48 hours, cause of death, remarks.

61. What is the Administrative statistics? Administrative statistics include:

- Number of medical personnel; seniors and juniors according to specialty.
- Number of dentists; seniors and juniors.
- Number of nursing personnel—according to cadre and student nurses if any.
- Number of paramedical workers including laboratory, radiology, dietary, pharmacy, medical social service, medical records, and others.
- Other auxiliary services:* Engineering, civil, electrical, maintenance, laundry, and housekeeping.
- Administrative staff including the director, deputy directors, office unit heads clerical and lower grade staff.
- Expenditure relating to drugs, diet, equipment, furniture, forms, and stationery. Buildings including water, electricity, personnel, linen (patient uniform, staff uniform), transportation, communication, maintenance, training personnel, and research are all these units to be considered.
- Income from patients and other sources.
- Other information pertaining to administration.

62. What is Monthly Reports on Hospital statistics? Statistics of major departments such as pathology, microbiology, biochemistry, radiology, ECG, dietary, anesthesiology, physiotherapy, obstetrics and gynecology (births and deaths), and operating theaters, have to be prepared with details and submit to the medical record department before the 5th of every month. The medical record department should prepare monthly statistics of outpatient, inpatient, emergency, and allied departments and publish a report before the 10th of every month. Copy of monthly hospital statistical report should be sent to the following departments before the 15th of every month.

- To the hospital administrator.
- To the heads of departments and unit chiefs.
- To health information officer of the state and central if required or mandated (MOH).

63. What is Preservation of Old Records? All medical records including patient files, registers, index cards, etc. relating directly to patient care have to be maintained by the MRD. The medical record department should collect the old registers and files from all the wards, emergency departments, outpatient clinics, etc., and classify them properly by giving the “old record register number”. The old files, registers, and index cards are to be preserved in a place earmarked for a prescribed period. Later, the records have to be destroyed as per the rules laid down for “record retention”. Preservation of Records means taking special care has to be taken to preserve the records. Records have to be protected from insect termites and prevent records from being exposed to hot and dry climates. They should be filled in dust free and protected from water, dampness, and fire. Adequate fire extinguishers are to be provided at all required places.

64. What is Retention of Records? Because of pressure on space for filing of medical records a retention schedule for keeping records has been prepared by the MOH for hospital guidance (*See* the retention schedule). However, those hospitals which are carrying out teaching/research programs can keep the records longer than the prescribed period provided they have adequate space and facilities. If there is no clear-cut retention policy by the central or state government, then the hospital or institution can make its own record retention policy that should be properly justified the period of retention and the court will accept the rule. In normal cases, all Inpatient records can be kept for a minimum of 5 years from the date of discharge and 3 years for outpatients from the last date of attendance. If the records are scanned and preserved in the computer; for a longer period is possible and no legal issue at all. The same rule is applicable in all medico-legal cases except those cases that are under litigation; till the case is settled. Generally such cases, the records are already in the court.

65. What is Medical Record Retention Schedule?

Name of Medical Record	Retention in Original Form (in Years)	Effective from The date	Permanent Retention in microfilm, in computer or any other mode.
Patient Record			
Inpatient record)	5	Date of discharge	YES
Outpatient GP record	2	Of last date of visit	NO
A/E record	1	Of the last date of the visit	NO
Medico-legal cases	2	Of the last date of visit	Till case in court
X-rays Outpatient	5	Of the last date of visit	NO
X-ray Inpatient	5	Date of discharge	NO
X-ray A/E	1	Of the last date of the visit	NO
Registers			
Birth Regisre	2	Last date of entry	YES
Death Register	2	“	YES
Admission and discharge register	2	“	YES
Hosp. master register (OP	2	“	YES
Medico-legal register	2	“	YES
Operation register	1	“	NO
Ward Adm. & dis. register	1	“	NO
Narcotic register	1	“	NO
Infection register	1	“	NO
X-ray register	1	“	NO
Lab. and other registers	1	“	NO
Index			
Diagnostic Index	Permanently	Either physical or computerized form	YES
Operatrion Index			YES

Patient Master Index			YES
Physician Index	1	Last date of service	NO
Reports			
Daily ward census report	1	Of last report	NO
Daily statistical report	1	“	NO
Monthly report	1	“	NO
Yearly report	5	“	NO
Duplicate lab./X-ray report	1	“	NO

66. What is the Retention and Preservation Schedule? Healthcare organizations, as a policy, must establish retention and preservation schedules for the records, images, and content of the legal health record that complies with state or central /federal regulations and the **preservation** for continuity of patient care, medical education, research, legal, and other administrative purposes. For electronic health records, the electronic storage media such as magnetic and optical formats must meet the organization’s retention and preservation schedule should include retention of all types of data including discrete data, text, audio, video, and images. Clear policies should address backup procedures to ensure the retention and preservation process is strictly observed to protect against data loss or damage.

67. What is Technology Dynamism? Since records or data are retained for a longer duration, the technology used earlier is different from the present or future technology which is dynamic. As technology changes and its features are also different, measures must include “backward compatibility” or some type of software that facilitates to access previous systems' information for compatibility with the new or upgraded system and also for future comparability.

68. What is the Purging and Destruction of Records? Generally, nations and institutions should have a clear policy on the purging and destruction of manual and electronic records. According to the purging schedule; the records meant to be purged have to be documented clearly in the register or computer with name and number and purging could be burning, shredding, pulping, and pulverizing. Microfilm or microfiche methods of destruction include recycling and pulverizing to be done under two minimum responsible officers attesting from what number to what number of records or from what period to what period have been destroyed has to be clearly documented and produced to high officials. This will be a testimony if required to prove either to government authorities or a court of law.

69. What is Data Integrity? Data Integrity is defined as the accuracy, consistency, and reliability of information content, processes, and systems. Information integrity is the dependability or trustworthiness of information, which is a vital concept in a legal proceeding. The integrity of health records is maintained through access, network security, audit trail, security, and disaster recovery processes.

70. What is Health Record Access Control? Health record access control is critical to avoid the access of unauthorized persons. This process determines the policies of authorized persons to access patient information in the health record. Controlling access is an important aspect of keeping the legal integrity of the health record.

71. What is Audit Trail? The element of an audit trail may include the date, time, nature of the transaction or activity, and the individual or automated system linked to the transaction or

activity. Transactions may include additions or edits to the health record. Activities include access to view or read, filing, and data mining. The audit trail functionality is to support the legal integrity of the health record.

72. What is Disaster Recovery? An important aspect of maintaining a legally sound health record is securing the record to prevent loss, tampering, or unauthorized use. Rules of evidence require an organization to have policies and procedures in place to protect against alterations, tempering, and loss. Organizations must address and develop the following to adequately prepare for a disaster and prevent the loss or destruction of information. Data backup plan, disaster recovery plan, emergency mode operation plan, Testing and revision procedures, applications, and data criticality analysis

73. What is the Definition of MLC? As per Prof. Dr. Mogli “all cases of Accidental, Homicidal and Suicidal are considered to be Medico-Legal cases in exceptional cases like children; or patient was getting care in the same hospital are “Brought Dead” at the discretion of treating physician to treat them as MLC or not. Cases wherever the attending doctor after taking the history and clinical examination of the patient the treating physician determines whether the patient is a medic-legal or not; in fact, all the cases of Accidental, Homicidal, and Suicidal and all adult cases are MLCs, except in children are generally considered MLC. In some cases like Poison; rape needs to collect investigations samples by law is essential to diagnose or right cause in accordance with the law of the land.

74. What types of cases are considered as MLCs? 1. Injuries due to Accidents and Assault. 2. Suspected or evident cases of suicides or homicides (even attempted cases). 3. Confirmed or suspected cases of Poisoning. 4. Burns. 5. Cases of injuries with the likelihood of death. 6. Sexual Offences. 7. Suspected or evident Criminal Abortion. 8. All patients brought to the hospital in suspicious circumstances/ improper history (ex: found dead on the road). 9. Unconscious patients where the cause of unconsciousness is not clear. 10. Child Abuse 11. Domestic Violence, 12. A person under Police Custody or Judicial Custody. 13. Patients dying suddenly on the operation table or after the parenteral administration of a drug or medication. 14. Case of Drunkenness. 15. Brought Dead. 16. Natural Disaster. 17. Insect or Snake bite cases.

75. Why the Police should be intimated in MLC cases? The police should be informed under Section 39 of Criminal Procedure. Code, the attending MO is legally bound to inform the police about the arrival of an MLC. Any failure to report the occurrence of an MLC may invite prosecution under Sections 176 and/or 202 of I.P.C. (According to Prof. Dr. Mogli; “Not documented in the patient record means not done”).

76. Why Court rely on Medical Records? Courts rely heavily on Medical Records for evidence and they are summoned for the following cases- • Criminal cases • Personal injury cases • Cases relating to workmen’s compensation • Malpractice suits • Insurance cases • Will cases Legal aspects • Police authorities and the court can summon MRS under the due process of law. **The limitation period** for filing a case paper is a maximum of up to 3 years under the Limitation Act. And according to the consumer protection act it is up to 2 years.

77. What is the Impact of the Consumer Protection Act on the Medical Field?: Since 1986, the protection act came into existence healthcare providers including doctors, nurses, paramedics, and hospital administrators have to be meticulously careful in understanding the full responsibilities that they have to fulfill in the legal and administrative sense.

78. Who is Consumer? The paying patient, who receives health services from clinics, health institutions, nursing homes, etc., is considered to be the consumer.

79. Why the Consumer Protection Act? The statute has been enacted to provide for better protection of the interest of the patient, and for that purpose, consumer council has been established.

80. What is Service? It is defined as medical/health service of any type received in any recognized health institutions, clinics, or nursing homes from qualified medical, nursing, or paramedical professionals by a patient.

81. What is Deficiency? Under the Act, deficiency in relation to any service means any faults, imperfection, shortcomings, and inadequacy, in the quality, nature, and manner of performance which is required to be maintained under law.

82. What are Medical Malpractice /Negligence? This could be distinctly divided into two categories primarily due to incompetence and mere negligence, and secondly due to non-maintaining organized patient records. Firstly: medical practice under the law is more than a mere error in treatment or diagnosis. To be judged to be malpractice there must be serious harm caused to the patient as a direct result of the error. Furthermore, the error must be caused by the negligence of the healthcare provider. Secondly, the medical record is the basic reference document used in medical malpractice litigation. The poorly written, disorganized record is strong evidence of an incompetent healthcare provider. The poorly kept record is not, in itself, of negligence on the part of the healthcare provider, but it is proof of substandard care. The least credible records are those that are internally inconsistent, e.g., the situation where the doctor's progress notes indicate 'the patient doing well, while nursing notes indicate the patient had developed a high fever.

83. How long Medical Records should be preserved? At least a minimum period is prescribed for the retention of records of Federal or State Governments. In the absence of national or state laws, Hospitals or health institutions can have their own retention and preservation policy that will be applicable in a court of law. However, the period of retention should not be less than 10 years for Inpatients and 3 years for Outpatient cases

84. What is Consumer Protection Act 1986? Under the provisions of the Limitation Act 1963 and Section 24A of the Consumer Protection Act 1986, which dictates the time within which a complaint has to be filed, it is advisable to maintain records for 2 years for outpatient records and 3 years for inpatient and surgical cases. However, the provisions of the Consumer Protection Act allow for condoning the delay in appropriate cases. This means that the records may be needed even after 3 years. It is important to note that in pediatric cases a medical negligence case can be filed by the child after acquiring the age of majority. Precisely the record has to be kept for 18+3 =21 years. When a child become major at the age of 18, and 3 years' time is allowed to decide a file case or not.

85. What are the Medical Council of India guidelines? Medical Council of India guidelines also insists on preserving the inpatient records in a standard prescribed form for 3 years from the commencement of treatment. (Dr. Mogli states it should have been from the date of discharge for inpatients and the last date of visit for outpatients) The records that are the subject of medico-legal cases **should be maintained until the final disposal of the case** even though only a complaint or notice is received. It is necessary that the Government

frames guidelines for the duration for which medical records are preserved by the hospitals so that hospitals are protected from unnecessary litigation in issues of medical records. The provisions of specific Acts like the Pre Conception Prenatal Diagnostic Test (PNDT) Act, 1994 (PNDT), Environmental Protection Act, etc. necessitate proper maintenance of records that have to be retained for periods as specified in the Act. Section 29 of the PNDT Act, 1994 requires that all the documents be maintained for a period of 2 years or until the disposal of the proceedings. The PNDT Rules, 1996 require that when the records are maintained on a computer, a printed copy of the record should be preserved after authentication by the person responsible for such record.

86. What is the Preservation Period for legal cases? Medico-legal cases: where often medical records are required to prove medical history/treatment given, medical negligence, etc., and especially in road traffic accidents. Insurance cases: where the insurance company wants to review the medical records and verify the claim cases. Workmen's compensation cases where an injury occurs to a workman out of and in the course of employment. And Criminal cases to prove the nature, timing, and gravity of injuries. The preservation of such cases has to protect well and observe the methods suggested for the "preservation of records".

87. What is the State Record Retention Requirements? Each state may have an individual-specific retention record retention policy, if so, one has to observe those laws and retain records accordingly. In the absence of central or state laws for retention, the organization or institute can develop its own for the day-to-day practice of taking care of minimum required period records to be retained to avoid any legal or administrative issues.

If the patient is a minor, the healthcare provider or institution should retain health information until the patient reaches the age of majority (as defined by state law) plus the period of the statute of limitations so that the child after reaching majority, may decide to file a case or not, for that, some countries allow three more years after attaining a majority to file the case or not. The country's law fixes 18 years to be a major, and the record for newborns to be retained for 21 years. A longer retention period is prudent in most legal potential cases. In some countries have retention of records requirements for various needs of agencies such as accreditation, some research organization in collaboration with the government, and organizations with special patient populations need to go one step further in developing a records retention schedule. Special populations such as minors, behavioral health, or research patients may be governed by other regulations. The Food and Drug Administration, for example, requires research records pertaining to cancer patients to be maintained for 30 years.

88. What is Medico-legal Cases? The medico-legal case (MLC) is one, which is accidental, suicidal, or homicidal. However, the casualty medical officer (CMO) determines whether the case is medico-legal or not. Except for minor injury cases, all the cases of traffic accidents, burns, poison, and quarrels, etc. have to be treated as medico-legal.

89. What is a Medico-legal register? There should be a central medico-legal register kept in the accident and emergency (casualty) department, under the supervision of the casualty medical officer. All MLCs admitted from casualty, outpatient, and inpatient services should be registered in the central medico-legal register. A medico-legal stamp should be affixed on each registered case to ensure that the case has been registered.

All medico-legal cases registered in the hospital must be informed to the police through the hospital administrator and ensure that the MLC records are complete. These cases should be kept under the safe custody of a responsible officer in the medical record department.

90. What are the Legal Aspects of Electronic Health Records? Electronic health records play an important role in an efficient healthcare delivery system that is being adopted worldwide. Most of us are familiar with the legal aspect of manual medical records (Fig.9), nevertheless, legal and ethical aspects related to electronic health records need to be understood clearly. Enhanced portability and accessibility of EHR data raise ethical questions regarding ownership of protected health information and clinicians' responsibility to prevent and inform patients of the possibility of privacy breaches. The health record is also a legal record for healthcare organizations; as such it must be maintained by taking into consideration the professional practice, applicable regulations, accreditation, and legal standards.

91. What is Authentication for Legal Admissibility? The important issue is that all the records must be identified & authenticated while providing the care, to be admissible in a court of law.

92. What is Testifying about Admissibility? If records of health or image are to be admissible in the court of law as evidence, the rule states, "if data are stored in a computer or similar device, any printout or other output readable by sight, shown to reflect the accuracy, is an original. An accurate printout of computer data satisfies the best evidence rule, which ordinarily requires the production of an original to provide the content of a writing, recording, or photograph.

93. What is Authorship? Generally, the healthcare provider who records the information as part of treatment is the origination of recorded information. Authors are responsible for the completeness and accuracy of their entries in health records. If the entries are made by a second person e.g., a nursing staff on behalf of the care provider (physician), the treating physician is responsible for the content, accuracy, and completeness of the document.

94. What is the Authentication of entries? All entries documented including events, conditions, opinions, and advice, by the care provider in the health record, has to be authenticated and dated.

95. What type of signatures is valid? In electronic health records, the signature generally includes electronic or digital signatures or computer keys. Authenticated scanned documents can follow either manual (paper) or electronic guidelines.

96. Whether Rubber Stamp signature is accepted? Acceptance of this system varies from country to country and is acceptable if permitted by state or central/federal reimbursement regulations.

97. Whether Initials are permitted? Initials should not be used for entries where a signature is required by law. And also not to be used on narrative notes or assessment entries. Nevertheless, initials are permitted to authenticate entries such as flow sheets, treatment, or medication records.

98. Whether Fax signatures are accepted? The fax signatures are generally acceptable in many nations unless the state and central /federal laws are contrary to acceptance.

99. Whether Electronic Signatures is acceptable? Electronic signatures are acceptable if permitted by the state, central /federal, and reimbursement regulations. This varies from nation to nation.

100. Whether Digital signature is protected? A digital signature provides digital assurance that information has not been modified as if it were protected by a lock that is broken if the content were altered.

101. What are other Documentation Issues? In the manual system, the policies of the institution are to use only authorized abbreviations in the health records by all the staff. In EHR, abbreviations should be eliminated as information is formatted. Electronic order sets, document templates for point-and-click or direct charting, voice recognition, or transcribed documents can be formatted or programmed to eliminate abbreviations.

102. What are cut, copy, and paste functionality problems? In EHR, the primary issue with cut, copy, and paste functionality is one of the authorship problems. It is difficult to identify who is the author and is the date of origination for copied and pasted entries. There are several issues like, cutting from one record and pasting in another record, lack of identification of the original author and date, and acceptability of cutting and pasting the original author's note without his or her permission leads to many legal issues, hence, clearly laid down policies and procedures to be adopted for this process.

103. Why link with one patient, one record and one number? Each and every page in the patient record or computerized record screen must identify patients by name and health record number. Patient name and number must be on both sides of every page as well as on every form and computerized printout.

104. Why the chronological, and timeliness of each entry? There should be a proper flow of chronological entries; the record must reflect the continuous chronology of the patient's healthcare. The EHR systems should have the capability of producing an output that chronicles the individual's encounter. Timely recording of entry is vital for the admissibility of a health record in a court of law.

105. Why Date and Time should be on each Form of Medical Record? Every entry in the health record must include a complete date (day, month, and year) and a time. Electronic health record systems must have the facility to date and time-stamp each entry as and when the entry is made. Every entry in the health record must have a system-generated date and time based on the current date and time.

106. What rules apply to Imaged records? The standards used for manual (paper) records apply to imaged records. In addition, all scanned documents must be date and time-stamped with the date scanned. All entries to be scanned into the record should be made in black ink to facilitate the legible reproduction of records. Correcting an error in an electronic computerized health record system should follow the principles laid down by the institution. The system must have the ability to track corrections or changes to the entry once the entry has been entered or authenticated. When correcting or making a change to any entry in a computerized health record system, the original entry should be viewable, the current date and time should be entered, the person making the change should be identified, and the reason should be noted. If a hard copy is required to be printed from the EHR, the hard copy must also be corrected invariably with changes made. The institutional policy must clearly

define how errors are corrected in imaged documents while preserving a readable form of the original documents or images.

107. What is the Retraction of Records? Retraction involved removing a document for standard view, removing it from one record, and posting it to another within the electronic document management system.

108. What rules to be followed for late entry? The policy must be very clear when a required entry was not made in a timely manner; a late entry can be made by identifying the new entry as a “late entry” with the current date and time.

109. What rules are to be observed for Amendments? An amendment is used to provide additional information in conjunction with a previous entry. When making an addendum; record invariably the date and time in the document, write “addendum” state the reason for the addendum with reference to the original entry, and complete as soon after the original 2

110. What is Decision Support? This system generates notifications, prompts, and alerts that should be evidence-based validated, and accepted by the organization.

111. What is Notification and Communication with patients or family? In the event of any discussion with the patient’s family occurring regarding the care of the patient, the treating physician might send a notification to the family members. It is required to document all information including notification, and discussion with family along with the date, time, and of all communications or any efforts made.

112. What is Electronic Consent? With electronic consent, the patient views the consent and electronically signs it. An organization should verify that the electronic signature or authentication protocol meets all legal and regulatory requirements.

113. What policy and managing data from the patient and from other facilities? The organization’s policy should define whether the data in its entirety or just the data abstracted and transferred by the clinician is incorporated into the patient’s health record and the place of its insertion to be clearly stated and the source of the clinical data should be documented. In the electronic health record system, if the medical images are received from the patient or outside health organizations, the images may be uploaded into the central clinical system and give reference to where the data is located the source of organization, author, and date.

114. What Legal challenges does E.H.R. bring? Healthcare providers across the globe recognize the benefits of electronic health records (EHR) that provide swift, safe, improved quality, and cost-contained care. With these benefits, the maintenance of EHR also brings quite a good number of legal challenges that need to be dealt with prudently. The legal and ethical aspects related to electronic health records need to be understood clearly, and health records must be maintained in a way that is legally sound to enable to meet the legal challenges of local, state, and central /federal jurisdiction

115. What is a Personal Document? The medical record is considered to be personal when it identifies the patient using the name, history of illness, physical findings, and treatment given. The information in the record is confidential and no one is allowed to see the patient’s medical file and no information is released without written permission from the patient. However, official authorities are allowed to see the record only after presenting proof of

authority. Neither relatives nor friends of the patient, not even the husband or wife, have any right to review the record unless written permission has been received from the patient. The written permission and photocopy of the information disclosed should be kept in the patient's file.

If the patient is readmitted under the care of a second physician, the second physician should be allowed to access to the record without permission of the patient. In case the patient is admitted to another hospital, a summary may be sent upon request from the hospital or the physician. In such instances, the patient's permission is not necessary. If a patient requests information from his own medical file, in such instances, the treating physician should be consulted or any government's latest rules must be applied and practiced.

116. What is an Impersonal Document? As an impersonal document, the record may be used for research or study when such cautions need not be exercised, as when it is used as a personal document, because, it has no connection with the patient as an individual. Moreover, it is used only by physicians, house-staff undergraduate and postgraduate students, nurses, and paramedical staff; all of whom are bound by the code of professional secrecy. As an impersonal document, only the patient file number is used and not identified by his name, therefore, the patient's permission is not required.

117. When the permission from the treating physician required by other doctors? If a physician wants to study and publish a record other than his own need to take written permission to give the reason for what he wants to review and take the information. If the research is being done by a staff physician and is not for publication, it is not necessary to obtain the permission of the attending physician to use the record, although this is done as a matter of courtesy. In case the record is being studied preparatory to publication, the permission of the attending physician must be secured. It is very essential, when a physician, who is not a staff member, intends to review a case or a series of cases; the consent of the attending physician and permission from the hospital administrator must be secured.

118. What is Informed Consent? Written consent must be obtained from the patient or nearest relative for medical examinations, investigations, treatments, and procedures performed in the health care facility by the medical record staff. The MRD should explain the purpose of consent. In the case of children, persons of unsound mind, unconscious patients, and the consent of the guardian, the spouse, or the nearest relative may be obtained. The consent of the husband is required if an operation deprives his wife of her marital functions.

119. What is Informed Special Consent? Written consent must be obtained from the patient or nearest relative for performing surgeries by the one conducting the surgery. If some other person takes the special consent, the responsibility lies with the surgeon operating. The patient or his relatives must clearly explain all aspects of the operation in the spoken language of the patient or relatives and prognosis and consequences etc.

120. What is Confidentiality? The medical records and health information whether it is in the verbal form or written documentation pertaining to any identified patient, is confidential. As such the information available either in the form of medical records, disease and operation indexes, computer, microfilm, photograph, tapes or any other device used for the purpose should be treated as confidential documents. Therefore, only authorized staff is allowed to deal with patient information.

121. Who are the authorized staffs? Authorized staff is those who are involved in taking care of the patient, normally the medical, nursing, and paramedical persons of the medical record department.

122. What Information can be released without the patient's permission?

- Conditions* (e.g. injuries, poisoning, abortions, or cases of accidental, suicidal, and homicidal) must be reported to the police or other legal authorities.
- Communicable and other notified diseases* must be reported to the concerned authorities.
- Events (births, deaths, fetal deaths)* must be reported to civil registration authorities, either directly or through the family.
- Court order:* The hospital is also obliged to provide information in response to a court order. All the reports may be made available to the court without the patient's permission.

123. Who is the owner of medical records and health information? Medical Records and health information are the property of the hospital. The private practitioners he maintains the records is the owner. However, the contents belong to the patient. Therefore, all correspondence for medical information on patients in the hospital will be handled by the hospital administrator or his authorized representative usually the medical records officer. This includes insurance forms, workmen's compensation forms, medical certificates, letters to schools or places of employment, government forms, questionnaire, and requests for case summaries from law courts, etc. Any request for information including medico-legal cases has to be referred to the hospital administrator.

124. What is the Security of Medical Records? The informational content of medical records must be safeguarded against loss, defacement, tampering, or use by an unauthorized person. Except for the authorized, no employee has the right to read or copy the contents of any patient's record. Violators of the rules of confidentiality will be prosecuted and punished as per the existing civil service laws. Removal of medical records or portions of medical records and health information is strictly prohibited without authorization. The Security of the records means physical records manually maintained or digitalized records on the computer are to be safely guarded from heat, smoke, dust, termites, insects, gas, fire, or any other that cause damage to the records.

125. What are Security, Privacy and Confidentiality? Medical records and health information whether in verbal form or written documentation pertaining to any identified patient is confidential. As such the information available either in the form of medical records, disease and operation indexes, computer stored data, microfilm, photographs, videotapes, audiotapes, or any other device used for these purposes should be treated as confidential documents. Therefore, only authorized staff are allowed to deal with such patient information. Medical R

126. What is Control of Medical Record Forms? The medical record committee of the hospital should develop standard and simple medical record forms in little numbers, which provide flexibility and should reduce the bulkiness of records. While designing the following points should be borne in mind: a. the purpose of the form. b. Whom it is to be used? c. The identification of the patient within the form. d. The retrieval of the form. e. The hospital requirements, e.g. consultant's requirements. f. The provision made for form duplication, etc. *Size:* It is suggested to use an international paper size A4: 21 × 29.7 cm for large forms and B6: 12.5 × 17.5 cm for clinical investigation requests and report forms'. The selection of paper or card should be primarily on the degree of permanency attached to the record

concerned. i. Suitable color can be given to distinguish each form from others. However, it is advisable to print only on white paper with color-coded bands on the right-hand margin with space for the title and identifying symbols for each form in place of different collared paper. j. There should be a form identification number at the foot of the left-margin or right-margin of each form with the date and number of forms printed. k. Systematically the required quantity of forms for each year should be meticulously calculated and an additional of 20 to 25 percent more than the estimated number needed each year should be printed to allow for the waste caused by errors in usage. l. Introduction of the new forms is not advisable because these forms are expensive to produce, and also will confuse users. Therefore, all efforts should be made to reduce to a minimum the requisite basic forms in the medical record. When the basic set of medical record forms has been decided upon and introduced, samples of these forms together with short instructions on their use, should be kept by the hospital. Decisions on the revision or alteration of forms presently in use or on the introduction of new forms should be made by the hospital medical record committee. The individual departments of the health care facility should not be allowed to introduce new forms or to modify any form currently in use.

127. What is Accident and Emergency Service? A separate accident and emergency record in triplicate will be used in the A/E service. All the casualty records including X-rays have to be kept for one year in the A/E department. Later, they should be transferred to the MRD/X-ray department. The casualty registration section will also undertake the responsibility of the central registration and admission office during holidays and off hours.

128. What is the completion of Records? Doctors have to complete records before the discharge of patients wherever possible. Otherwise, they have to visit MRD weekly and review all the discharged records for completion. In any case, patient files should not be kept incomplete for more than a week.

129. Whether the MRD is responsible to supply of records? Yes; besides supplying for the OP, A/E and IP patient care; the MRD is responsible for the supply of medical records for medical education and research purposes to authorize persons and ensures those records are used within the MRD and not to be taken out of the department. The MRD should make proper provisions for the doctors and users of such records to have a quiet place to carry out their study work. There should be good lockers for incomplete records and records meant for research. There should be time schedule for the completion of records a maximum of one week's time after discharge and records kept for a research study should also be of the same period.

130. What are the registers to be maintained—manual and computerized system? The following registers have to be maintained in the hospital. If the hospital is maintaining manual records; the following hardcopy registers are required; if the hospital is computerized; the following registers can be in screen format.

131. What Outpatient register should contain? The Hosp.no/Patient's name/Sex/Age (DOB)/ID no/Nationality/Marital status/Occupation/Place of birth/Address and telephone no/Relative's name and telephone no/Clinic name.

132. What A/E Registers should contain? S.no./Date/A and E no./Name of the patient/Age/Sex/Nationality/Marital status/Occupation/ID number/Address/Time of arrival/Mode of arrival/Brought by/Illness or accident/Place of accident/Time of

accident/Degree of urgency/Diagnosis/Treatment/MLC (Yes/No)/Time of departure/Follow-up/Remarks.

133. What MLC Register should contain? MLC no./A and E no./Hospital no./Patient name/Age/Sex/Nationality/Marital status/Occupation/Address/Date and time of arrival/Means of arrival/Nature, place and time of accident/Complaint/Diagnosis/Disposition/Date and time of discharge/Name of 4/Remarks.

134. What Admission Register should contain? S.no./Date of admission/Date of discharge/Nature of discharge/ (Discharge/Transfer/Lama/Died)/IP no./OP no./Name of the patient/Age/Sex/Address/Time/Provisional diagnosis/Final diagnosis/Ward/Nationality/Remarks.

135. What Waiting List Register should contain? Waiting list register should contain identification data plus service/unit/name of admitting doctor/date and time of registration in the waiting list/date and time of the patient to be admitted/remark26 **register should contain?** S.no./Hospital no./ Patient's name/Sex/Age/ Nationality/Room no./Bed no./Date and time of admission/Service, unit/Provisional diagnosis.

136. What Ward Admission & Discharge register should contain? S.no./Hospital no./Patient's name/Sex/Age/ Nationality/Room/Bed no./Date and time of discharge/Service/Unit/ Final diagnosis/Result/Remarks.

137. What Operation Register should contain? Operation register should contain S. no. /Hospital no./Name of the patient/Age/Sex/Nationality/Marital status/Occupation/Date of admission/Date and time of operation/Diagnosis/Operation/Anesthesia type/Anesthetist/Surgeon/Assistant surgeon/Name of the OT nurse/Results/Remarks.

138. What Anesthesia Register should contain? S. no./Date/Hospital no./Name/ Age/ Sex/Diagnosis/Operation/Pre-medication/Anesthetic technique and drug used/Duration/Anesthetist/Remarks.

139. What Birth Register should contain? S. no./Name of the newborn/Sex/Fathers particulars (Name/ Religion/Nationality/ Occupation/Address)/Mothers particulars (Name/Religion/ Nationality/ Occupation) /Date of birth/Particulars of a place of birth/Destination of the delivery attendant/Signature of registrar/Date of registration/Signature of notifier /Remarks.

140. What Death Register should contain? S. no./Hospital no./Name of the diseased/Age/Sex/Nationality/Address and Telephone no./Ward/Date of admission/Time of death/Diagnosis (cause of death)/Signature of doctor certifying death/Relative's signature receiving the body.

141. What Central Cancer Register should contain? Full identification data, plus CCR no./ Disease/Date onset of the disease/Confirmed by histo-pathologically/treated as OP/IP/DOA/DOD/Service/Unit/Information sent to NCR on date/remarks.

142. What General Instructions should be observed to keep the complete record? The following instructions need to be carefully executed.

i. Every sheet of the patient medical file must have identification of at-least the complete patient's name and hospital number.

ii. The treating staff whether medical, nursing, paramedical, or others have to sign and date wherever it is required. Generally, when information is written in the form, the note has to be attested and dated.

iii. All written entries into the patient file including investigation requests, and reports must be clear and legible. Since patient files will be kept for a longer period, it is advisable to use dark color ink. Pencils must not be used. Each entry must be dated and include the name and status of the contributor.

iv. Any section of the patient file should not be erased, if corrections are required, circle and write over and sign.

v. Patient should not be admitted to the ward without completing the admission and discharge advice form by the treating physician or any authorized medical officer.

vi. Patient should not be discharged without written discharge instructions from the treating physician.

vii. A provisional or admitting diagnosis must be written at the time of admission wherever possible.

viii. Diagnosis will be written in full without the use of abbreviations.

ix. Standard abbreviations are listed separately as such only those should be used.

x. Prior to the discharge of the patient, the consultant physician or his authorized assistant should write the final diagnosis including primary and secondary. The condition of the patient on discharge, the result, and the advice given should be written.

xi. The cause of death as recommended by WHO must be written in all death cases. If an autopsy is conducted, a note "autopsy done" and a report should be recorded.

xii. Prior to proceeding on leave, the physicians should get a no-objection certificate from the medical records department.

143. What are the Rights of a Patient? The following are the rights of the patient.

i. To get considerate and respectful behavior from all staff in the hospital (from consultant to cleaner) and safe care by the hospital at all times.

ii. To obtain from his physician complete, current information concerning his diagnosis, treatment, and prognosis in terms that the patient can be reasonably expected to understand.

iii. To receive necessary information from his physician for giving consent prior to the start of any procedure or treatment.

iv. To refuse treatment to the extent permitted by law and to be informed of the medical consequences of his action.

v. To give every consideration of his privacy concerning his own medical care program.

vi. To expect that all communications and records pertaining to his/her care should be treated as confidential.

vii. To accept his willingness to be transferred to another hospital.

viii. To be advised if the hospital proposes to engage in or perform human experimentation affecting his care or treatment. The patient has the right to refuse to participate in such research projects.

ix. To expect reasonable continuity of care. He has the right to know in advance the names and professional status of the people treating him/her and which physician is responsible for his/her care, date, and time of appointment.

x. To know what hospital rules and regulations are applicable to his conduct as a patient. The patient has the right to complain if something goes wrong in his or her case to the appropriate authority.

xi. To be examined in privacy and to have a person of the same sex present when being examined or treated by someone of the opposite sex.

xii. To obtain assistance in communicating with the people treating him/her in their vernacular or other language.

144. What are the Responsibilities of a Patient? The following are the responsibilities of a patient.

i. To furnish correct and full identification information; full name, age (date of birth), occupation, father's/husband's name, nationality, complete address including telephone number.

ii. To give correct information regarding his/her previous visits to hospitals and furnish about present complaints, past illnesses, hospitalizations, and medications.

iii. To retain appointment (hospital number) card safely, and produce the same whenever he/she visits the hospital or health clinic.

iv. To inform the hospital authorities of the loss of the hospital number card so as to locate the correct hospital number.

v. To visit the hospital on the day and time of the appointment and to avoid going to the hospital without a prior appointment except in the case of an emergency. If the patient is given a follow-up appointment for future visits, he/she should register his/her case and obtain a date and time for the next visit before leaving the hospital.

vi. To report only to the authorized staff in the hospital for his/her appointments.

vii. To observe the rules and regulations and strictly follow instructions of the hospital and they should not take away the hospital records except the patient appointment card and other documents given to the patient.

viii. Making willful corrections in the records, giving the wrong information or producing wrong documents, or bringing documents of other patients for treatment will lead to legal prosecution and punishment.

ix. To be considerate and respectful of the rights of other patients and of the hospital staff by assisting in the control of noise, limiting the number of visitors, and avoiding cigarette smoking whenever necessary.

145. What is Bed Complement? Bed complement is the number of hospital beds, exclusive of newborn bassinets, normally available for use by inpatients.

146. What is Maximum Bed Capacity? Maximum bed capacity is the largest number of available hospital beds, exclusive of newborn bassinets, which could be established at any given time within the space, intended for such use, whether or not the beds are installed.

147. What Beds should be included in the Bed Complement? The following beds should be included in the bed complement:

- a. Quiet rooms attached to the ward for use by patients whose condition makes them unsuitable for a multiple-bed ward;
- b. Beds in the reception or observation wards that accommodate patients pending transfer to regular wards;
- c. Beds in the hospital proper designated for use by sick or injured staff nurses, interns, or employees, which could be used for other patients;
- d. Bassinets permanently placed in rooms other than the nursery, for newborn infants and in maternity patients' rooms and used for the care of infants other than newborns;
- e. Isolation beds held in reserve for ill or infected obstetrical patients.

148. What Beds shouldn't be included in the Bed Complement? The following beds should not be included in the bed complement:

- a. Labor beds are used only for a short period while the patient's regular bed in a room or a ward is being reserved;
- b. Beds in the emergency department on which patients may rest following treatment or minor operations performed on an outpatient basis;
- c. Beds located in special diagnostic or therapeutic departments such as radiology, physical therapy, blood bank, etc., on which patients may rest following examination or treatment on an outpatient basis;

- d. Beds in the outpatient department on which patients may rest for a short period following treatment or minor operations;
- e. Beds located in the nurses' residence or other employee quarters and used exclusively for the care of sick or injured staff nurses and employees;
- f. Anesthesia recovery beds are used temporarily by postoperative patients prior to discharge or transfer to regular beds.

149. What permanent changes affect the bed complement? Permanent changes e.g. conversion of a private room into a semi-private room, conversion of patient rooms or wards into utility rooms, examination rooms, etc., and enclosure of a sun porch to add permanent bed accommodations are examples of permanent changes which affect the bed complement.

150. What Changes do not affect bed complement? The following changes or conditions do not affect the total bed complement:

- a. Setting up cots or beds in a ward temporarily filled to capacity;
- b. Temporarily diverting private or semi-private rooms for use by ward patients because of a shortage of ward beds;
- c. Temporarily withdrawing bed facilities for patients from active service because of a decreased demand for beds;
- d. Removing rooms or units temporarily out of service because of quarantine restrictions;
- e. Removing rooms or wards temporarily out of service because of alterations, painting, etc.;
- f. Withdrawing beds from service for an extended period of time because of a lack of personnel.

151. What is Day Care Surgery? Patients are those who receive "surgical" services in the healthcare facility without staying overnight in the hospital. Day care surgery also known as same-day surgery, is a model of care that means within 23 hours of undergoing a surgical procedure, patients will be able to leave the hospital and return to recover without occupying an overnight bed.

152. What is Outpatient Surgery? Similarly, in daycare or ambulatory surgery, a patient does not stay overnight at a healthcare center but gets discharged within a few hours of the procedure. As the patient is treated in an outpatient setting, it is also known as outpatient surgery.

153. What is the Day Care and Bed Occupancy? If the Day care patient occupies a ward bed; the day of admission counts as one bed-day so day cases (patients admitted for a medical procedure or surgery in the morning and released before evening are also considered one-bed days. The exception is that if the bed is used by another patient then- day surgery care counts as an inpatient with zero length of stay rather than a day.

154. What is an exception to the general rule of inpatient admission? A patient admitted in the morning and died before evening; though he or she has not stayed overnight stay, counted as one day. Similarly, patients admitted in the morning and gone-against medical advice or absconded from the hospital are counted as one-day occupancy. The day-care surgery falls in the same situation. Since the day surgery cases are increasing in almost all hospitals; there is a need to maintain a separate bed complement so that one can get an accurate bed-occupancy rate;

155. Where bed occupancy rules may not apply to all the departments?: Information on bed occupancy requirements varies from department to department; the dietician has supplied food on the day of admission and also on the day of discharge too; the ward nurse has given medicines including injections to the patient on the day of admission and also on the day of discharge; this will not tally with LOS rules. Calculation of room rent is another aspect; though these definitions were made decades ago; at that time only minor day surgery was done either in the outpatient clinics or in emergency rooms. Currently due to the high admission rate and shortage of beds coupled with optimum utilization of beds for inpatients that need overnight care; the daycare surgery patients are occupying for a few hours but still, they are admitted as inpatients, and the same bed is used by another patient on that day; then daycare surgery case can be considered zero length of stay otherwise to be counted as one-day occupancy

Addendum to: Advantages of conducting more Day Care Surgeries vs. Problems encountered by the hospital staff on accurate bed occupancy rates on prescribed definitions.

156. What is Bed Occupancy Rate without Day Care Cases?

Bed Occupancy Rate (Without Day Care Cases)

$$\frac{\text{Total Inpatient Service days (Ward Census) for a period} \times 100}{\text{Total Inpatient bed count days} \times \text{number of days in the period}}$$

157. What is Bed Occupancy Rate with Day Care Cases?

Bed Occupancy Rate (With Day Care Cases)

$$\frac{\text{Total Inpatient Service days (Remained Census} \pm$$

$$\frac{\text{Total No. of Daycare cases admitted for a period} \times 100}{\text{Total Inpatient bed count days} \times \text{number of days in the period}}$$

158. What is the Concept of Day Care? In order to cope with the high demand for inpatient beds, the Daycare concept was born - not admitted into the ward as an inpatient and to be treated as "Daycare except using the OTs and Recovery Room for a few hours. Daycare patients due to complications or any medical emergencies are admitted as an inpatient. Due to the heavy demand for beds coupled with good medical facilities and expertise in the specialty wards; the Daycare cases are being admitted into the ward which means it is an inpatient in principle. Currently, the recovery rooms are swiftly vanishing and ICU, ICCU, and NICU replacing them. Having admitted into the ward beds; is expected to increase the bed occupancy that is not happening due to the fact these cases don't meet the definition of inpatient staying overnight. **The concept of Calculating Bed Occupancy Rate for Daycare**

is incorrect: This could be implemented only when a separate Daycare ward with a fixed number of beds is allotted; then one can calculate the utility of beds. This might happen in the future; when Daycare surgeries have become very popular and in high demand universally.

Hypothetical Example: (for the month of April (30 days))

X hospital has bed strength of 510 (used for the ward patients)

The inpatient service days or ward midnight census: 12050

Daycare cases: 1020

I. Bed Occupancy Rate (without Day Care Cases)

510 x 30 = 15300 bed days

The inpatient service days (Ward-Census for the month of April (30 days) is 12050

12050 /15300 x 100 = 78.758 OR Bed Occupancy Rate is 79%

II. Bed Occupancy Rate (with Day Care Cases)

Add Daycare cases to Inpatient service days OR Ward-Census): 12050 + 1020 = 13070

13070/15300 x 100 = 85.424 OR 85.4% OR Bed Occupancy Rate is 85%

Exception: If Daycare cases stay overnight due to medical complications or any other reason to be deducted from the Daycare cases.

The difference between Without Day Care and with Day Care is 6.66%

An additional 6.66% is due to Inpatient beds occupied by Daycare cases.

III. Daycare cases can be considered as 100% occupancy: In the absence of fixed exclusive beds for Daycare cases coupled with “Daycare cases vary daily and there is no constant number; better to treat them as a **hundred percent occupancy** irrespective of a number of Daycare cases every day. OR simply quote a number of Daycare cases instead of a percentage.

Recommended: Hospitals that do not admit Daycare cases into inpatient wards can use an example- I. Hospitals that admit Daycare cases into inpatient wards can use example II. Hospitals don't fall into either I or II; they can consider example III.

159. What is Mogli's Ready Reckoner? This Mogli's Ready Reckoner has TWO main purposes: Firstly can be used to calculate the hospital length of stay (LOS) and secondly can be used for booking appointments; (booking clerks can use the reckoner for scheduling patients for a clinic visit days or weeks ahead) A printed copy can be and pinned up in front of clerks who need to do the job.

Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	1	32	60	91	121	152	182	213	244	274	305	335
2	2	33	61	92	122	153	183	214	245	275	306	336
3	3	34	62	93	123	154	184	215	246	276	307	337
4	4	35	63	94	124	155	185	216	247	277	308	338
5	5	36	64	95	125	156	186	217	248	278	309	339
6	6	37	65	96	126	157	187	218	249	279	310	340
7	7	38	66	97	127	158	188	219	250	280	311	341
8	8	39	67	98	128	159	189	220	251	281	312	342
9	9	40	68	99	129	160	190	221	252	282	313	343
10	10	41	69	100	130	161	191	222	253	283	314	344
11	11	42	70	101	131	162	192	223	254	284	315	345
12	12	43	71	102	132	163	193	224	255	285	316	346
13	13	44	72	103	133	164	194	225	256	286	317	347
14	14	45	73	104	134	165	195	226	257	287	318	348
15	15	46	74	105	135	166	196	227	258	288	319	349
16	16	47	75	106	136	167	197	228	259	289	320	350
17	17	48	76	107	137	168	198	229	260	290	321	351
18	18	49	77	108	138	169	199	230	261	291	322	352
19	19	50	78	109	139	170	200	231	262	292	323	353
20	20	51	79	110	140	171	201	232	263	293	324	354
21	21	52	80	111	141	172	202	233	264	294	325	355
22	22	53	81	112	142	173	203	234	265	295	326	356
23	23	54	82	113	143	174	204	235	266	296	327	357
24	24	55	83	114	144	175	205	236	267	297	328	358
25	25	56	84	115	145	176	206	237	268	298	329	359
26	26	57	85	116	146	177	207	238	269	299	330	360
27	27	58	86	117	147	178	208	239	270	300	331	361
28	28	59	87	118	148	179	209	240	271	301	332	362
29	29		88	119	149	180	210	241	272	302	333	363
30	30		89	120	150	181	211	242	273	303	334	364
31	31		90		151		212	243		304		365

(Published in the International Federation of Health Records Organizations; journal Series 2, No.2. 1977 and "MEDICAL RECORD AND HEALTH CARE INFORMATION JOURNAL" of U.K., Vol. 10, No. 1, February 1978, pages 350-360. Also published by, many national journals. The Ministry of Health, Govt. of India circulated to all the Health Ministries to be used by the hospitals in the year 1979.)

Instructions: 1. First note the total days to the date of discharge and from that number subtract the date of admission. The resulting number is the inpatient stay. For example:

A case was admitted on 4.1.2022 and discharged on 6.4.2022 then.

6.4.2022 96
4.1.2022 4

Days of Hospital stay: 92

2. In case of a leap year e.g., , 2000, 2004, 2008, 2012, 2016, 2020, and so on. If a patient is admitted before February 29 and is discharged on or after February 29 then add one extra number to the previous procedure. If a patient is both admitted and discharged after or before February 29, then procedure number one is still applicable.

3. If a patient was admitted one year and was discharged in the next year, e.g. admitted on 15.11.2021 and discharged on 20.1.2022, use the following procedure: from the number 365 subtract the number of the date of admission, then add up the number of the date of discharge. Admitted on 15.11.2021 and Discharged on 20.1.2022 For Example: $(365 - 319 = 46 + 20 = 66$ days)

No. of date of admission in the year 2021: 319 deduct from 365 = 46

No. of date of discharge in the year 2022	<u>20</u>
	<u>66</u>

Appointments: Look up the number for the current date. Add to that number, the number of days ahead that the patient is scheduled for an appointment. Determine what date the number refers to.

Example: On 16th November 2021: The number (in Ready Reckoner) is 320

Schedule patients for clinic visits five weeks ahead (35 days) Look up 320+ 35 = 355 = December 21 which is the appointment date. If the schedule data happens to be a holiday; give the next appropriate date.

160. How we can get benefit from Mogli's Ready Reckoner? Mogli's Ready Reckoner was popular in entire global hospitals from 1978 onwards till the nineties as there was no computer to calculate the length of stay (LOS). Of course, after the computerization of the hospitals, the computers are automatically calculating the LOS. Despite, some hospitals having computers still use manually calculating the LOS. If you are not using computer generated LOS; then follow the simple way of calculating the LOS as a given sample case.

A sample case: As you know all the discharged cases need to be calculated the Hospital Length of Stay or (LOS).

For example, you are calculating the LOS for the patient discharged on **June 9**, of any year. Find out the number from the ready reckoner. The number is **160**. This number will constant for the calculation of all the discharged cases of that day. From this number take one discharge case admitted on February 9. Check the number 40. Just deduct from 160-40 = 120 days. In the same way, just finds the number on the date of admission in each case and deduct; you get the LOS. Very simple, you can finish about 100 s in much less time with 100% accuracy.

Another example; you are calculating, LOS for the patient discharged on 12th October; the number is **285**. A case was admitted on 5th June – the number is 156; 285 – 156 =129.

Another case is admitted on 22nd May: 142. 285-142=143. The exception to this rule is only if the patient is admitted before a “Leap Year” then you need to add one extra day to LOS.

161. Why and Who Needs the Hospital Information? There are many reasons that may require a medical release of information e.g., to submit to settle the hospital bills, prove that they were hospitalized or that they are born on a particular date and time in a particular place or hospital, etc. by the patient himself or herself; or his or her close kith and kin; or third party who they authorize to collect on behalf of them as far as individual or concerned. Other than this, the government, court of law, Insurance health, general or life and other companies, workplace to settle workman compensation or sanctioning of medical leave, or authorizing the husband or wife or children to claim certain income or property, etc.

162. Who are the customers and what type of information is required? The following are the customers who request medical records or related information;

Patients, Hospitals, Nursing Homes, and healthcare providers	Insurance companies general, life & other for settling healthcare bills/ Workplace for settling workman compensations	Courts/Police/ Prisons Government or Healthcare organizations. Advocates; Or workplace to settle litigations	Work- Place; Schools,
Patient records/discharge summaries/ Med reports/ reports of Diagnostic for patient care.	Health Insurance and Life-insurance settlements and other health-related claims settlements.	Official Patient Records or registers, Data for legal proceedings, and settlement	Medical Certificates Attendance; Admission; Discharge, AMA
Impotence, Sex determination	Medical billing; Reimburse-billing settlements.	Birth and Death certificates Accidental, homicidal, and suicidal certificates	Age examination
Medical fitness;	Third-party payers	Examination of injuries, alcohol, and other	Disability
		Sexual offenses etc. to produce in the court	Medical fitness

Note: When medical certificates are issued; the duplicate copy of the original certificate duly signed must be retained in the MRD. Any staff issuing any medical report or certificate to a patient or anyone; need to send a duplicate of the original to MRD for future reference. These procedures to be observed meticulously to avoid legal litigations.

163. What is HIM's Professional Role? HIM professionals may not deal with the patient directly, but help patients indirectly by maintaining their records or taking care of medical data and ensuring reliability, timeliness, accuracy, and completeness and by collection, analysis, storage, use, and transmission of information to meet legal, professional, ethical, and administrative records keeping requirements of healthcare delivery. Their services are used in clinical, medical education, research, epidemiological, demographic, and financial services also for insurance, public health or national health, and international health agencies. As HIM is a highly trained person, acquainted with the latest technology including Artificial Intelligence (AI), Machine Reading (MR), and Robotics applications, policies, and procedures his responsibilities are becoming increasingly significant as the healthcare industry continues to transition to Electronic Health Records.

The HIM can play a pioneering role by coordinating with the entire hospital functions which can be classified into two main groups primarily patient care including swift, safe, quality, and cost-contained care, and medical education, research, insurance, reimbursement, and security and confidentiality of the patient. Secondly, management of hospital functions which are considered as secondary services, without first, the second is nullified HIM Managers including medical, nursing and allied health and support services, finance, are part of the hospital organization their financial expenditure needs to be closely monitored for economic measures.

164. How many categories of Health Information Professionals? There would be mainly three categories of HIM professionals e.g., a. Managerial; b. Supervisory and c. Operational and each category will have a different educational background. Though all three categories will have similar basic professional knowledge and skills; however the supervisory and managerial will add additional specialized knowledge and skills by undertaking special PG certificates, diplomas, or degrees. The minimum qualification for operational staff would be a Pre-university degree (preferred graduation) and supervisory staff would be professional degrees and master's degrees for the managerial category. The managerial and supervisory professionals will be placed mostly in the tertiary, and secondary care institutions while the supervisory and operational will be in the Primary healthcare institutions.

165. What Qualities a Leader should have especially with reference to HIM? “One's ability to get others to willingly follow the given below ten leadership qualities”.

1. **Vision:**--Dream, hallucination, apparition, idea, mental picture, image, visualization, revelation.
2. **Integrity:**--Honesty, Truth, truthfulness, honor, veracity, reliability, and uprightness.
3. **Dedication:**--devotion, commitment, enthusiasm, keenness, perseverance, allegiance, ardor, loyalty.
4. **Magnanimity:**--nobility, generosity of spirit, high-mindedness, fairness.
5. **Humility:**--humbleness, modesty, unassuming nature, meekness.
6. **Openness:**--Honesty, Directness, Frankness, Sincerity, Candidness, Ingenuousness
7. **Creativity:**--originality, imagination, Inspiration, Ingenuity, Innovativeness, resourcefulness.
8. **Fairness:**--justice, equality, evenhandedness, Sprite
9. **Assertiveness:**--Not aggressiveness, Boldness, brazenness, forcefulness, insolence
10. **Sense of Humor**

166. How the HIM can Outshine in his organization? HIM besides managing his own department effectively- needs to go ahead as the Managers' duties in today's corporate world are multi-faceted. Not only do managers need to be versed in maintaining good medical records and health information; need to know a little bit of economics and finance systems; it is now essential for them to have a firm grasp on organizational behavior and psychology. They must know the Vision, Mission, and Goals of their organization. HIM needs to not just take the order and carry out the given tasks effectively but further needs to come out with innovative ideas that economize expenses and accomplish the result much faster with better quality. He has to play a role sincerely with dedication as the institution belongs to him and he expects everyone will do their bit of contribution in a positive mood to enhance the efficiency of performance of all the units so that the very purpose of the institution is

achieved and make each and everyone involved are part of great a team to build and outshine and succeed.

167. Why we need a Professional Association? The purpose of this topic is to enlighten fellow members of HIM Professionals, especially from Developing Countries including India, about the dire need for health records/information management association at the national level to improve the healthcare delivery system-including primary, secondary, and tertiary care at all levels of the nation. Which adequate professionals are required to manage the HIM departments in health institutions? Without which the health institutions have to function without HIM departments or with non-qualified persons. Despite a commitment to their profession, if they work isolated, it would be difficult to standardize and integrate health record information technology in the country. **Action Plan:** All the employees working for HIM should be made members of the association and ensure that all are involved in educational and professional growth activities with the support of workshops, seminars, and conferences at the institute, regional, and national levels. **Government participation:** The next step is involving the Government in the activities of the HIM national association, by communicating the progress made and seeking support for further improvements. The HIMA should be the liaison between the HIM professionals and the Govt. The HIM should contribute in the national healthcare delivery program including eHealth management. **Suggested remedies:** The most important suggestion is the establishment of a central HIM department in the Ministry of Health at central and each state to be headed by a senior HIM professional to oversee the development of HIM programs in the county. Setting national eHealth including digitalized records and information; setting standards, policies and procedures, and conducting educational and training programs to generate professionals and enhance the professionals to meet the needs of the country. All HIM members must fully involve in the activities and those working as executive members need to serve selflessly to achieve the set objective of the association e.g. HIM professional standards and uplifting the status of professionals but not be used for individual name or fame. Conducting workshops or conferences is very important provided if demonstrated the accountability of progress made and challenges faced by the association during the year etc. and what are its future plans to make the association robust to be clearly brought out.

168. When the National Medical Record Associations of Global born? The most significant milestones and landmarks were the birth of national associations in different countries: e.g. the USA (1928), Canada (1942), Great Britain (1948), Australia (1952) and India (1972), and so on... Many developed and developing counties have formed national medical records associations with different names according to their country's language and practice; e.g. Germany France, Italy, and so on. It is hard to mention the names of those who contributed much to the profession selflessly and devotedly in establishing their national associations. Their names should be recorded in the history of the global growth of medical records.

169. Who Formed HIMA India and got the IFHIMA Affiliation and When? The author Prof. Dr. G. D. Mogli of this book was working in JIPMER, Pondicherry, is a Founder, formed the HIMA India and registered on 12th July 1972 in Pondicherry, India, Under the Government of India Act XXI of 1860. S.No. 32 of 1972. The founder applied immediately after formation for affiliation to the International Federation of Health Information Management Association (IFHIMA) in July 1972. According to the IFHIMA protocol, the new association has to wait for 4 years and present justification in the next 7th International Congress that was to be held in Toronto, Canada. Dr. Mogli participated and presented

justification; got the affiliation and along with Germany, India became a member of IFHIMA in 1976.

170. Who and When Celebrated the 50 Years of the Golden Jubilee of HIMA India? Prof. Dr. Mogli on the occasion of 50 years, the Golden Jubilee of HIMA India (1972-2022); conducted Two-Day International Conference with two workshops with the theme “How to Outshine and Succeed in the HIM Profession to be a Global Expert” from 17-18 December 2022 at KIMS Hospitals, Hyderabad, India. To make the conference memorable a special conference program schedule was prepared with no VIPs, only HIM professionals from national and Global were sent. The program was highly appreciated by Global distinguished professionals and the conference was a grand success; the global distinguished participants from the USA, Canada, the UK, and the Middle East participated and presented papers to make a teaching and learning exercise for all the HIM personnel. We received excellent feedback from IFHIMA's distinguished professionals. The special feature of this conference was the author Prof. Dr. Mogli prepared half of the book including the basics of Anatomy, Physiology, and Medical Terminology, brainstorming 1720 questions and answers, in advance with the conference theme as its title: and the remaining half; incorporated the Two-Day conference with workshop deliberation and the feedback from IFHIMA distinguished professionals was incorporated, published 440-page book and given to all delegates participated in the conference and those sent feedback.

171. How to practically conduct an Int. Conference including Two Workshops? There is a need of Conference-Planning - Executing a Systematic and Successful Event that should be memorable.

Any Conference that is conducted should be objective achieving; time schedule, result oriented and able to impart optimum latest knowledge of regional, national, or global to share or exchange and to train others confidently and competently. The conference can be of varied types and it all depends on who is organizing, why and where, and how it is done to accomplish its set goal. The conference can be regional (Participants are restricted to the region with specific topics to discuss). Similarly, it could be state-level with state issues or particular topics or national-level with the specific topics to be deliberated to accomplish the best outcome. A national conference could be of a general topic- anyone can participate with a registration fee or without a fee etc. The conference is restricted to one country, and then it is generally called the national conference. If more than one nation is participating and presenting papers then is known as an International; which deals with global or more than one nation topics; and participants including speakers from more than one nation is considered to be an International conference.

The conference is generally conducted by an organization that could be federal, state; or regional or any professional organization or a single or a group of experts in the field. The conference is to ensure that all the topics cover the selected theme. It would be advisable for the organizer/s to send the circular to all the potential speakers' well-in advance of the topics that are to be presented with clear guidelines so that one can get the best original and research papers related to the theme. The size of the conference could be from a few hundred to one or two thousand. It should be well planned so that the need of participants is met during the deliberation of the conference. The conference needs to develop skillful human resources in the related topic that will add great value in executing the services or production whatever may

be. This exercise through conference if properly conducted participants benefit **tremendously** with full satisfaction of playing and enjoying a game; time passes easily in keeping busy in completing the given project. Once the conference is conducted with proper expertise the participants will enjoy the terrific satisfaction of being a leader. Moreover, gain confidence that they can deal with such situations.

172. How to Conduct a Workshop? There is a need of Workshop-Planning - Executing a Systematic and Successful Event that should be memorable.

Any workshop that is conducted should be objective achieving; time schedule; result oriented and able to impart or train others confidently and competently. The workshop is generally conducted by a single or a group of experts in the field. The workshop is to ensure that the organization needs to develop skillful human resources in the related topic that will add great value in executing the services or production whatever may be. This exercise through workshop if properly conducted candidates benefit tremendously with full satisfaction of playing and enjoying a game; time passes easily in keeping busy in completing the given project. Once the workshop is conducted with proper expertise the participant will enjoy the terrific satisfaction of being a leader or master and gains confidence that he can deal with such situations with ease and get the best outcome.

The workshop with full of creativity, initially the expert leads by giving the introduction to the project assignment explaining the process of the workshop, and forming the groups according to the size of the number of participants and the time at disposal. Then the activities of each group with their monitor/ monitors will get into allocated areas or halls to discuss and present the report. This exercise not only be productive but inspire others to do the way you conducted will add great value to organizers and participants. Moreover, gain confidence that they can deal with such situation.

173. Who Dedicated Decades of Service to the HIM Profession Globally? These dedicated professionals can be classified into mainly three categories: Firstly those who initially dedicated their efforts and decades of precious life to the profession and made what we see the IFHIMA' as of today. Many young professionals may not be aware that this profession was not recognized well compared to all other medical, nursing, and paramedics, especially in developing countries. Most of the healthcare policies and decisions and healthcare providers consider medical records can be maintained by any person with little training, hence scant respect with low salaries and esteem. Despite this being the situation, some even today are dedicated to the profession and present in almost all the IFHIMA congress and guide in many ways to help young enthusiastic professionals to move forward and achieve the objectives of IFHIMA. The following are those who not only have done tremendous professional work in their respective countries, and reached high positions by mere hard dedicated work and earned great esteem, but also spend their energy and life in serving the profession. Out of the following, those who are alive are not only participating in almost all the IFHIMA Congress but are actively involved in its function and growth and giving their best possible advice and assistance whenever asked or needed.

- (i). Mrs. Grace Whiting Myers, of the USA, was elected the first professional president
- (ii). Elsie Royle Mansell of UK Instrumental formed a UK association and conducted the first International Congress in the UK in 1952. And also formed IFMRO in Sweden in 1968

(iii). Dr. Boga Skrinjar-Nerima of the World Health Organization- brought the world of MR professionals into IFHIMA

(iv). Prof. Phyllis Watson of Australia- Great Educationist, since 1972 fully dedicated and selfless service to IFHIMA to date

(v). Carol Lewis of USA–Great Consultant- helped many DC professionals; since 1976 fully dedicated and selfless service to IFHIMA to date

(vi). Prof. Dr. G. D. Mogli of India (Served 9 DC nations since 1959 onwards known as “Father of Medical Records of India and the Middle East”, Founder of HIMA India in 1972 in JIPMER, Pondicherry and got affiliated with IFHIMA in 1976 in Toronto, Canada. He is known as Champion of Developing Countries (DC) by IFHIMA (World). Great organizer, educationist, and active with IFHIMA from 1976 participating and presenting papers in all the Congress till date. His 15 published books were used by DC and other developed countries. “Dr. Mogli’s Mirror” enlightens his work. www.drmogli.com

174. What was Dr. Mogli’s recent (2023) Global Achievement in Profession? He was selected as a member of the Academic Review Panel for the 2023 IFHIMA Congress to be held from 29 October to 1 November 2023 in Brisbane, Australia.

Joan Henderson, josn.hrnfrtdon@sydney.edu.au.

To: gdmogli@yahoo.com Sep 12 at 2:01 PM

Dear Prof. G. D. Mogli,

The 2023 International Federation of Health Information Management Associations (IFHIMA) Congress is being hosted by the Health Information Management Association of Australia (HIMAA) in Brisbane, QLD, from **29 October to 1 November 2023**, in conjunction with the HIMAA National Conference. As Co-Chairs of the Congress Scientific Committee, we are writing to invite you to please participate in the review process for abstract submissions, as a member of the Academic Review Panel.

175. When was First International Congress on Health Records held? In 1934 Elsie Royle Mansell was elected to work in hospital administration and was appointed to a new hospital in Manchester, England. She was given the responsibility of improving the medical records system. Elsie Royle’s thirst for knowledge increased. She planned a visit to North America in 1940, but due to Second World War (1939-1945), it was not possible. Hence, she wanted to improve medical record services in the UK. With the help and interest of others, she formed an Association of Medical Record Officers (AMRO) in The United Kingdom in the year 1948. The first International Congress on Health Records was held in London in 1952.

176. Who were responsible for creating an International Federation of Medical Records? After the first International Congress held in London in 1952, every four years the second in 1956 (USA), the third in 1960 (UK), and the fourth in 1964 (USA) was successfully conducted. The fifth International Business Meeting was held in Stockholm, Sweden from 27-31 May 1968 with an attendance of 750 participants from 19 countries. During this congress, Dr. Skrinjar-Nerima of the World Health Organization and Elsie Royle Mansell presented the first two papers. Dr. Skrinjar in her presentation strongly encouraged international cooperation between medical record personnel. Elsie Royle Mansell followed

Dr. Skrinjar's advice and took it seriously and requested the members without any delay the formation of the International Federation of Medical Records Organization (IFMRO).

177. When the Federation of Medical Records (IFMRO) was born? The International Federation was formed (born) in Stockholm, Sweden in 1968. Currently known as the International Federation of Health Information Management Association (IFHIMA)

178. What are the main objectives of IFHIMA? One of the important purposes of IFHIMA is to promote HIM in all countries including adopting international HIM standards, exchanging informational HIM educational requirements and training programs, and promoting and implementing effective technology e.g. electronic health records. It is high time to enhance the IFHIMA member countries, especially the developing countries on war footing to ensure that the efforts and endeavors of the association reach to as many as nations possible in order to bring greater unification and standardization for the easy global link and ultimately to accomplish the association's objectives.

179. What is an Accreditation? Accreditation is a process by which we assess the health care organization to determine if it meets the set of standards designed to improve the quality of care rendered and safety in all its activities. Accreditation provides a visible commitment by an organization to improve the quality of patient care and ensure a safe care environment by continuously monitoring and improving on a set of internationally accepted indicators. Accreditation with indicators has gained worldwide attention as an effective quality evaluation and management tool. To name a few accreditations being done in India are; 1. National Accreditation Board for Hospitals & health care providers (NABH); and 2. Joint commission international Accreditation.(JCIA)

180. What is the role of HIM in the Hospital Accreditation? Implementation of HIS or EMR in a hospital has become a basic requirement for the proper functioning of a hospital. EMR & HIS form the backbone of any efficiently run hospital. In India, not enough importance is given to the proper maintenance of electronic and physical records in hospitals. The concentration is still on the business aspect of healthcare only. Some government hospitals are nowadays making an effort to use IT to leverage their quality of care and ease of use and quick retrieval of patient information. The HIM's effort to bring out the advantages of HIM and its role in enabling quality healthcare and thereby enabling accreditation. Before we delve into the details we will see the meaning and definition of the terms HIM, Accreditation, and indicators which are basic to further understand the content. The HIM is the practice of acquiring, analyzing, and protecting digital and traditional medical information which is vital to providing quality patient care. The HIM focuses on the collection of structured data and its proper maintenance, with a very efficient data retrieval system to support information-intensive and information-reliant healthcare systems.

181. What is the Patient Safety? Patient safety is an important healthcare discipline that emphasizes the reporting, analysis, and prevention of medical errors that often lead to adverse healthcare events. The frequency and magnitude of avoidable adverse patient events were not well known until the 1990s when many countries reported shocking numbers of patients harmed and killed by medical errors. Recognizing that healthcare errors impact 1 in every 10 patients around the world, the World Health Organization calls patient safety an endemic concern. Indeed, patient safety has emerged as a distinct healthcare discipline supported by an immature yet developing scientific framework.

182. What is Healthcare Error? The simplest definition of a healthcare error is a preventable adverse effect of care, whether or not it is evident or harmful to the patient. A conservative average of both the Institute of Medicine and Health Grade reports indicates that there have been between 400,000-1.2 million error-induced deaths during 1996–2006 in the United States. These casualties have been, in part, attributed to: Human Factors such as Variations in healthcare provider training & experience, fatigue, depression, and burnout. Diverse patients, unfamiliar settings, and time pressures. Failure to acknowledge the prevalence and seriousness of medical errors. Medical complexity e.g., Complicated technologies, powerful drugs. Intensive care, prolonged hospital stay. And System failures such as: Poor communication, and unclear lines of authority of physicians, nurses, and other care providers. Complications increase as the patient-to-nurse staffing ratio increases. Disconnected reporting systems within a hospital: fragmented systems in which numerous hands-offs of patients result in a lack of coordination and errors. Drug names that look alike or sound alike. The impression that action is being taken by other groups within the institution. Reliance on automated systems to prevent error. Inadequate systems to share information about errors hamper analysis of contributory causes and improvement strategies. Cost-cutting measures by hospitals in response to reimbursement cutbacks. Environment and design factors. In emergencies, patient care may be rendered in areas poorly suited for safe monitoring. The American Institute of Architects has identified concerns for the safe design and construction of healthcare facilities and Infrastructure failure. According to the WHO, 50% of medical equipment in developing countries is only partly usable due to a lack of skilled operators or parts. As a result, diagnostic procedures or treatments cannot be performed, leading to substandard treatment. **The Joint Commission's** Annual Report on Quality and Safety 2007 found that inadequate communication between healthcare providers, or between providers and the patient and family members, was the root cause of over half the serious adverse events in accredited hospitals. Other leading causes included inadequate assessment of the patient's condition, and poor leadership or training.

183. What are common misconceptions about adverse events? They are Incompetent healthcare providers are a common cause. (Although human error is commonly an initiating event, the faulty process of delivering care invariably permits or compounds the harm, and is the focus of improvement.) High-risk procedures or medical specialties are responsible for most avoidable adverse events. (Although some mistakes, such as in surgery, are harder to conceal, errors occur in all levels of care. Even though complex procedures entail more risk, adverse outcomes are not usually due to error, but to the severity of the condition being treated.) However, United States Pharmacopeia (USP) has reported that medication errors during the course of a surgical procedure are three times more likely to cause harm to a patient than those occurring in other types of hospital care.) If a patient experiences an adverse event during the process of care, an error has occurred. (Most medical care entails some level of risk, and there can be complications or side effects, even unforeseen ones, from the underlying condition or from the treatment itself.)

184. What are potential causes related to patient dislike? The following are some

- The patient left against the advice
- Hospital-acquired infection
- Patient not improved
- Increased mortality rate
- Patient repeated admissions
- Patient post-operative complications

- Incident cases
- Patient complaints due to dissatisfaction
- Absconded patients
- Patient increased length of stay
- Waiting time of patient
- Medication errors
- Transfusion reactions, wrong blood type
- Obstetric and birth trauma
- Anesthesia and postoperative complications
- Patient falls in hospital e.g., hip fracture
- Hospital-acquired burns
- Change of investigations
- Wrong diagnosis, wrong medications
- Change of mother and child
- Occurrence variance
- Problems relating to healthcare services
- Patient dissatisfaction
- Patient care evaluation to ensure that he/she is getting the best care
- Safety, Security of patient
- Protection of privacy of patient information

185. What Is Patient Flow? The patient flow literally begins from the time the patient enters the outpatient department in a hospital until the patient leaves the OP department. The patient flow is similar for the ER and Inpatient ward. The problems of Patient Flow in OPD are more common in Developing Countries. Similarly, Developed Countries experience more problems encountered by patients in the ER and inpatient wards. The patient flow is nothing but the way the patient is taken care of in the hospital during his hospitalization stay that is from the time of admission; getting into the ward, stay during hospitalization as an inpatient for medical or surgical care. While during this journey, the patient has to have many clinical examinations by physicians and supported by many labs and radiological investigations for establishing an accurate diagnosis; if a patient happens to be surgical; the patient is admitted; a few different tests could be ordered and prior to surgery anesthetist involved to verify whether the patient was fit for operation; then the surgeon to conduct surgical procedures. In this case, the patient is shifted to the OT for operation, later recovery room, or ICU depending on the condition of the case, and later to the ward. The patient requires good post-operative care and is discharged with follow-up advice.

186. What are Patient Flow problems in the hospital? Patients are badly affected due to improper and inefficient Patient flow system that is primarily associated with hospitals, especially with patients overcrowding in the ED with elective patients depriving the facility meant for emergency cases, poor patient flow system in the hospital that leads; miss-communication, unproductive cooperation or coordination among the staff, though they are extremely busily working; poor scheduling and lots of duplication that leads to adverse health outcomes, increased re-admissions and in some cases lead to mortality. With these organizational methods even hospitals that are expanding their facilities and hiring additional staff unable to prevent the issues of overcrowding and poor planning of patient admissions, transfers, and discharges.

187. What is the role of Medical Records in Healthcare Institutions? The healthcare institutions are organized and managed mainly for rendering proper patient care to sick and

injured; to ensure that the care provided was proper as per the laid down standards operating procedures; only the principal instrument is the 'patient record- is a mirror' which has related information to reflect exactly what was the health problem and how it was identified through clinical and other investigations, diagnosis, and who were the healthcare providers involved and what treatment rendered medically or surgically in accordance with the severity of the ailment. What therapeutic measures were taken, medications used and any expert opinion through consultations to carry the patient care in an appropriate manner to get fast recovery at the same time safety, and quality of care is taken care of so that the patient gets back to their full normalcy wherever possible. Any lack of proper documentation by concerned healthcare providers or not applying the required standards operating procedures will be detrimental to patient care and the outcome would be damaging.

188. Why need for a reputable expert who could identify problems and provide suitable solutions? Many hospital authorities including the government and corporate hospitals pointed out that despite the well-equipped infrastructure and highly qualified professionals from around the globe, the hospitals were facing problems, and patients were undergoing some difficulties and complaining about the hospital services. Poor patient flow system in the hospital leads; to miscommunication, unproductive cooperation or coordination among the staff, though they are extremely busy working; poor scheduling, and lots of duplication that leads to adverse health outcomes, increased re-admissions, and in some cases lead to mortality. With these organizational methods even hospitals that are expanding their facilities and hiring additional staff unable to prevent the issues of overcrowding and poor planning of patient admissions, transfers, and discharges. Only a medical record professional with exceptional expertise can help in identifying the problems in the hospitals and providing suitable remedial measures to solve and make a smoothly running e-hospital.

189. What is Health Information Management System (HIMS)? A properly functioning HIMS gets the right information into the right hands at the right time, enabling policymakers, managers, and individual service providers to make informed choices about everything from patient care to budgets.

HIMS basically functions on top of EHR and provides ways and means to record track and monitor, events and procedures, which forms the basis to improve quality. It also helps to reduce the cost of care provided and lends support to the administration in analysis and control. Administrators want a system that will capture all patient charges and work output whereas, clinicians want immediate access to the patient records, imaging, and diagnostics data. Clinician also wants timely alerts in case of any abnormality in diagnostic tests/procedure data. Hence a good HIMS must cater to the needs of both administrators and clinical staff.

190. How the HIM make employees robust? Every employee comes into the workplace with his or her own context, a mixture of culture, memories, upbringing, and experiences. Part of the role of an MRO is to create a shared vision for the entire team. Make sure employees understand the vision, mission, and goals of the organization and how they become part of the management. . Constantly communicate the plan of "What is" expected from the hospital employees: why the plan is important, the role the team plays, and the critical role individual employees play. Every time you communicate with an employee, answer the questions: What's in it for the organization and why should they involve, and how they improve their performance? Compare and link what's happening at the larger organization to your department in real-time, and make it a point to talk about how

employees' work relates to the company's success. One most vital communication skills is- Repeat, repeat, repeat; people are satisfied once they have done the given work and they are under the impression that the job is done well. International Classification of Diseases

XXII International Classification of Diseases	
S. No	Question
1	What is the classification of diseases?
2	What is the International Classification of Diseases?
3	What is ICD-10?
4	What is the design of the ICD-10?
5	What is the Structure of ICD-10?
6	What is Diagnosis?
7	What is Clinical Diagnosis?
8	What is Principle Diagnosis?
9	What is Pathological Diagnosis?
10	What is Differential Diagnosis?
11	What is Provisional Diagnosis /
12	What is Pre-operative Diagnosis?
13	What is Post-operative Diagnosis?
14	What is Co-exist Diagnosis?
15	What is a co-morbid diagnosis?
16	What is an example of a comorbid diagnosis?
17	What is the Principle Procedure?
18	What is the Coding and Indexing of Diseases
19	What is the Coding and Indexing of Operations?
20	What is Disease and Operation Index?

1. What is the classification of diseases? Classification of diseases may be defined as a system of categories to which morbid conditions are assigned according to some established criteria. Classification systems are used to organize health care data for classifying, storing, and retrieving patient health care information from patient medical records.

2. What is the International Classification of Diseases? The International Classification of Diseases (ICD) permits the systematic recording, analysis, interpretation, and comparison of morbidity and mortality data collected in different countries or areas and at different times. The 10th Revision of the ICD published in 1993, is the latest in a series that was formalized in 1893 as the Bertillon Classification or International List of Causes of Death.

Based on the official version of WHO's 9th Revision of the International Classification of Diseases, the National Centre for Health Statistics, USA published the Clinical Modification of International Classification of Diseases (ICD-9CM) in 1978. In this version, diseases were further classified or sub-classified for more specificity.

3. What is ICD-10? The WHO has recommended implementing the ICD-10 with effect from 1994. Some of the countries have already implemented and the rest of the countries are in the process.

4. What is the design of the ICD-10? The ICD-10 the following:

- Structure - Three volumes of ICD-10
- Chapters - 21 Chapters
- Codes - alphanumeric codes

5. What is the Structure of ICD-10? ICD-10 contains 3 volumes; Volume 1 - tabular list: (British spelling is used in Volume 1); Volume II Instruction Manual. This reference material gives the salient features of rules and regulations to be followed in coding and classifying the diseases of morbidity and mortality data as per the Tenth Revision of the International Classification of Diseases (WHO)., and Volume III; alphabetical index.

6. What is Diagnosis? Diagnosis is made on the basis of extensive knowledge about the patient such as family history, physical examination, and investigation including x-rays and laboratory tests. The following are some of the different kinds;

7. What is Clinical Diagnosis? Clinical diagnosis is based upon symptoms shown during life, irrespective of the morbid changes producing them.

8. What is Principle Diagnosis? The condition established after the study is chiefly responsible for occasioning the admission of the patient to the hospital for care. **Note:** (I) Not necessarily the symptoms presented by the patient on admission nor the conditions the physician suspects on admission (ii) The diagnosis determined by the physician after diagnostic tests and work-up of the patient are completed.

9. What is Pathological Diagnosis? Pathological diagnosis is based on gross and microscopic examinations of the structural lesions present.

10. What is Differential Diagnosis? Differential diagnosis is based on symptoms and physical signs of two contrasting diseases.

11. What is Provisional Diagnosis / Tentative Diagnoses? Provisional or Tentative diagnosis is based upon the availability of sources of information but is subject to change.

12. What is Pre-operative Diagnosis? The Pre-operative diagnosis is made before the operation and based on clinical findings.

13. What is Post-operative Diagnosis? The Post-operative diagnosis is based on findings observed during the operation.

14. What is Co-exist Diagnosis? All conditions which co-exist at the time of admission or developed subsequently and which affect the treatment received and/or the length of stay.

15. What is a co-morbid diagnosis? When two disorders or illnesses occur in the same person, simultaneously or sequentially, they are described as comorbid. Comorbidity also implies that the illnesses interact, affecting the course and prognosis of both.

16. What is an example of a comorbid diagnosis? For example, if you have diabetes and you're later diagnosed with depression, then depression is comorbidity. Both conditions have symptoms that can affect your quality of life. So when you see your doctor for diabetes, they'll need to keep in mind that depression also affects your health overall.

17. What is the Principle Procedure? The **principal procedure** is the procedure most related to the principal diagnosis and/or one which is performed for definitive treatment rather than for diagnostic or exploratory purposes or one necessary to take care of a complication.

18. What is the Coding and Indexing of Diseases? All medical records of patients treated in the outpatient and inpatient departments have to be coded for disease classification by the MRD according to the latest international classification of diseases (WHO) or as recommended by the hospital administration.

19. What is the Coding and Indexing of Operations? All medical records of patients treated for surgical procedures in the outpatient and inpatient departments have to be coded for operation classification by the MRD according to the latest international classification of operations (WHO) or as recommended by the hospital administration.

20. What is Disease and Operation Index? All medical records coded for diseases and operations have to be indexed manually in the disease index card and operation index card or electronically in the computer by the MRD. The information required from the index cards has to be compiled.

XXIII Electronic (Digital) Health Records (E.H.R.)

S. No	Question
1	What is Electronic Medical Records (EMR)?
2	What is Electronic Health Records (E.H.R.)?
3	What is the Definition of a Hybrid Health Record?
4	What is Fourth Generation (1979-Present)?
5	What is a Software Domain application?
6	What is Web designing?
7	What is Database Designing?
8	What is Networking?
9	What is Software Designing?
10	What is Testing in a computer program?
11	What is Re-testing in a computer program?
12	What is Regression testing?
13	What is Software?
14	What is Computer hardware?
15	What is Hardware Architecture?
16	What are R and D in computer science?
17	What is Health Information Technology (HIT)?
18	What is Computer Provider Order Entry (CPOE) or also called Computerized Physician Order Entry (CPOE)
19	What is Clinical Decision Support System (CDSS)
20	What are Picture Archive and Communications Systems (PACS)
21	What is Bar Coding?
22	What is the Development of a Computerized Medical Record Management System?
23	What is an Administrator's role in the Development of Computers?
24	What is System analysis?
25	What is System Design?
26	What is System Programming?
27	What is System Testing?
28	What is System Implementation?
29	How many types of Implementations?
30	What is System Evaluation?
31	What is System Maintenance?
32	What is Difference between the manual and computerized appointment systems?
33	What is Appointment System?
34	What is the difference between a manual medical record and a computerized medical record?
35	What is Telemedicine?
36	What are some specific Telemedicine applications?
37	What are Electronic Health Record Limitations?
38	What is Clinical data Limitations?
39	What initiative that is helping the adoption of standard, clinical vocabulary?
40	What are Technological Limitations?
41	What is Cost and Value Limitations?

42	What is Standardization Limitations?
43	What is Change Limitations?
44	What are E.H.R Functional Requirement Specifications?
45	What are Functional Requirements?
46	What is Administration Requirements?
47	What is the Clinical Documentation Requirement?
48	What is Data Export Requirements?
49	What is Data Import Requirements?
50	What is Decision Support System Requirements?
51	What is ePrescription Requirements?
52	What is Order Management Requirements?
53	What is Reporting Requirements?
54	What are Result Management Requirements?
55	What is Privacy and Security Requirements?
56	What are Functional Requirements vs. Technology?
57	What is the Systematized Nomenclature of Medicine-Clinical Terms (SNOMED-CT)?
58	What is Laboratory Result content?
59	What is Non-Laboratory Interventions and Procedures?
60	What is Anatomy and Physiology in SNOMED-CT?
61	What is Diagnosis and Problem lists in SNOMED-CT?
62	What is Nursing Care in SNOMED-CT?
63	What are Logical Observation Identifiers Names and Codes (LOINC)?
64	What is CEN prEN 13606 HER.com?
65	What is Health Level 7 (HL7)?
66	What is HL7 Clinical Document Architecture (HL CDA)?
67	What is Digital Imaging Communication in Medicine (DICOM)?
68	What is DICOM Structured Reporting (DICOM SR)?
69	What is Web Access to DICOM Persistent Objects (WADO)?
70	What is National Council for Prescription Drug Program (NCPDP)?
71	What is the Institute of Electrical and Electronic Engineers (IEE)?
72	What is American National Standards Institute- Accredited Standards Committee X12- Insurance Subcommittee (ANSI-ASC X12N)?
73	What is IHE Retrieve Information for Display (RID)?
74	What is IHE Cross-enterprise Document Sharing (XDS)?
75	What is Medical Mark-up Language (MML)
76	What is AHIMA E.H.R Standards?
77	What are ISO E.H.R Standards?
78	What is ISO 18308 Requirement for E.H.R Reference Architecture?
79	What ISO/DTR 20514 –E.H.R Definition-Scope and Context?
80	What is ISO/DTR 20514 – E.H.R. Definition, Scope, and Context
81	What is JACHO Standard?
82	What are Health Insurance Portability and Accountability Act (HIPAA)?
83	What is HIPAA Compliance?
84	What is Mobile Technology?

85	. What is Future of Smart Phone?
86	What is the use of mobile in healthcare?
87	What are the benefits of mobile devices in healthcare?
88	What is the use of mobile and wireless technology in health care industry?
89	What is the role of IT and telecom in healthcare industry?
90	How do nurses use smartpone in patient care?
91	What is the meaning of mobile application?
92	What is Artificial intelligence?
93	What is AI in Healthcare?
94	What is the Technology Infrastructure?
95	What is the IT and Telecommunications infrastructure profile include?
96	What is a variety of Hardware, Software and service needed?
97	What is Infrastructure: Hardware, Software, and Connectivity?
98	What is Standard Vocabulary?
99	What is Standards?
100	What is Infrastructure Standards?
101	What is Hardware Infrastructure?
102	What is Process Infrastructure?
103	What is People's Preparation?
104	What is System Build?
105	Why Several Technical Infrastructure Components are needed to influence the Clinician adoption and use of the E.H.R.?
106	What is Handheld/Tablet/Mobile Device?
107	What is the Human Machine Interface?
108	What is Integration and Standardization?
109	What are Standard Identifiers?
110	Why we need Infrastructure in IT Systems?
111	Why do we need Data?
112	Why we need d IT Staff?
113	What are the Values of Infrastructure?
114	What are the Technical Barriers: Standards and Data Definitions?
115	What are the needs of E.H.R. Implementation and maintenance?
116	What is the needs assessment?
117	How are Vendor Selection and Contract Negotiation?
118	Why Goal Definition?
119	Why define Requirements?
120	What infrastructure is required?
121	Why the network?
122	Why Wide-Area Bandwidth?
123	Why Workflow Assessment and Redesign?
124	Why Multidisciplinary Review?
125	Why staffing and managing implementation teams?
126	What is Physician's Role in E. H.R. Implementation System?
127	Why Assess Usability in E. H.R. Implementation System?

128	What is user Interface in E.H.R. implementation System?
129	What is Layered Lists in E. H.R. Implementation System?
130	Whether E. H.R. Behaviour: Hard or Soft Stops in E.H.R. Implementation System?
131	Why Colour in E. H.R. Implementation System?
132	Why Numerals in E. H.R. Implementation System?
133	Why is the Usability Testing in E. H.R. Implementation System?
134	Why the Training is important in E. H.R. Implementation System?
135	Why Learning is important in E. H.R. Implementation System?
136	What are the training needs in E.H.R Implementation System?
137	What is Self-paced Learning in E. H.R. Implementation System?
138	What is the Definition of CDS?
139	Why Clinical Decision Support is Important in E. H.R. Implementation System?
140	What is Translating Scope of Practice into Effective E.H.R. Workflows in E.H.R. Implementation System?
141	What is E.H.R. Access in E.H.R. Implementation System?
142	What is System Integration in E.H.R. Implementation System?
143	What are Ancillary Applications in E.H.R. Implementation System?
144	What is Technical Interface Consideration in E.H.R Implementation System?
145	What is Integrating the E.H.R Suite in E.H.R Implementation System?
146	What is Layered Lists in E.H.R System?
147	What is Integrating Application Testing in E.H.R Implementation System?
148	What is Master File Management in E.H.R. Implementation System?
149	What is E.H.R Application Upgrades in E.H.R Implementation System?
150	What is Phased Implementation in E.H.R. Implementation System?
151	What is Technical Support in E.H.R Implementation System?
152	What is Artificial Intelligence (AI)?
153	What is Natural Language Processing (NLP)?
154	What is Machine Reading in NLP?
155	What is Robotics?
156	What are the capabilities the E.H. R should possess?
157	When Standards for E.H.R. in India was introduced?
158	What are the benefits of Standardization E.H.R?
159	What is HIMSS eight-stage EMR adoption model (EMRAM)?
160	What are the Impacts of Information Technology and Professional diversity?
161	What are Automated Data Collection and Telemedicine?
162	What is the National Tele Consultation Service?
163	What is Cloud Storage Computing?
164	What benefits of Applying AI to E.H.R Data?
165	What is critical use of health records?
166	What is Digital Health?
167	What are the Benefits of Digital Health?
168	What are the Challenges of Digital Health?
169	What are Digital Health and Business Intelligence (BI)?
170	What is Clinical Business Intelligence Architecture?
171	What are Digital Health and Clinical Informatics?

172	What is Central Processing Unit (CPU)?
173	What are the 5 Major Components of a Computer that you need to know?
174	What are the main Components of a Computer?
175	What is Vision ERA?
176	What is Health Information Management System (HIMS

1. What is Electronic Medical Records (EMR)? The invention of computers and their introduction in work areas brought a revolution in the medical field too. Electronic Medical Records (EMR) was introduced. Basically, EMRs were “medical”, they were used mostly by clinical staff for recording and retrieval of diagnosis and treatment of patients. The scope got widened to make the patient health data available to a larger circle of clinical staff even outside the institution. Hence EMR expanded to Electronic Health Records (EHR).

2. What is Electronic Health Records (EHR)? E.H.R. does all the things an EMR does and much more. EHRs focus on the total health of the patient—going beyond standard clinical data collected in the hospital. EHRs are designed to reach out *beyond* the health organization that originally collects and compiles the information. They are built to share information with other healthcare providers, such as other hospitals, laboratories, and specialists, so they contain information from all the clinicians involved in the patient’s care.

3. What is the Definition of Hybrid Health Record? Dr. Mogli defines “A hybrid health record as one where some records are maintained manually and some records are automated. Precisely, some hospitals have both systems practiced side by side. It could be that up to a particular date, the records were maintained entirely manually, and the hospitals would have switched to electronic completely on a particular firm date. In this situation, the hospitals would be maintaining both manual and electronic as well. The combination of both the systems either partially or fully is considered to be hybrid”.



Figure: 13.1

4. What is Fourth Generation (1979- Present)? Large-scale and very large-scale integrated circuits (LSIs and VLSIs) were developed. Microprocessors that contained memory, logic

and control circuits (an entire Central Processing Unit) were developed on a single chip. Microprocessors allowed for home-use personal computers or PCs, like the Apple (II and Mac) and IBM PC. Apple II was released to the public in 1977, by Stephen Wozniak and Steven Jobs. Apple II was initially sold without a monitor and had 16k RAM. The first Apple Mac was released in 1984, while the first IBM PC was introduced in 1981. The entrance of MS-Dos (Microsoft Disk Operating System) was taken place.

Fourth-generation languages software products like VisiCalc, Lotus 1-2-3, dBase, Microsoft Word, and many others were developed. In the early 1980s, Graphical User Interfaces (GUI) for PCs arrived. MS Windows marked its debut in 1983, but Windows could not take off until version 3 was released in 1990. Apple's GUI (on the first Mac) was introduced in 1984.

5. What is a Software Domain application? An application domain is the segment of reality for which a software system is developed. It is the background or starting point for the actual-state analysis and the creation of a domain model. An application domain can be an organization, a department within an organization, or a single workplace. An application domain is a mechanism (similar to a process in an operating system) used within the Common Language Infrastructure (CLI) to isolate executed software applications from one another so that they do not affect each other.

6. What is Web designing? Web designing is the process of planning, conceptualizing, and implementing the plan for designing a website in a way that is functional and offers a good user experience. User experience is central to the web designing process. Websites have an array of elements presented in ways that make them easy to navigate. There are 3 main types of web development. They are Front-end web development. Front-end web development is responsible for the look and feel of a website. Back-end web development. Full-stack web development. Web designer; Web programmer. Content developer; Webmaster

7. What is Database Design? Database design is the process of producing a detailed data model of a database on the process of domain information. This data model contains all the needed logical and physical design choices and physical storage parameters needed to generate a design in a Data Language, which can then be used to create a database for developing developers to prepare program codes.

The overall database system includes a database design that describes different parts of the design. Above all, and most correctly, it can be thought of as the logical design of the base data structures used to store the data. Nevertheless, the term database design could also be used to apply to the overall process of designing, not just the base data structures, but also the forms and queries used as part of the overall database application within the Database Management System or DBMS.

The Web-designer also plays a very important role and the Database Administrator works in collaboration and process of doing database design generally consists of a number of steps that will be carried out by the database designer. Not all of these steps will be necessary in all cases. Usually, the designer must:

- Determine the data to be stored in the database
- Determine the relationships between the different data elements
- Apply to a logical structure to the data on the basis of these relationships.

8. What is Networking? Networking is the practice of linking two or more computing devices together for the purpose of sharing data. Networks are established in order to integrate computer hardware and computer software. The following are some of the network classifications. **Scale:** based on the scale networks can be classified as LAN, MAN, and WAN, etc. Computer networks can also be classified according to the hardware technology that is used to connect individual devices in the network such as Optical fiber, Ethernet, Wireless LAN, Home PNA, or Power line communication. Ethernet uses physical wiring to connect devices and deploys devices such as hubs, switches, bridges, and/or routers. Wireless LAN technology is designed to connect devices without wiring. These devices use radio waves as a transmission medium. Functional relationship (Network Architectures): Computer networks may be classified according to the functional relationships which exist among the elements of the network, e.g., Active Networking, Client-server and Peer-to-peer (workgroup) architecture. Computer networks may be classified according to the network topology which is the study of the arrangement or mapping of the elements links, nodes, etc. of a network, especially the physical (real) and logical (virtual) interconnections between nodes upon which the network is based, such as Bus network, Star network, Ring network, Mesh network, Star-bus network, Tree or Hierarchical topology network, etc. Types of computer networks in order of scale are:

- Personal Area Network (PAN)
- Local Area Network (LAN)
- Campus Area Network (CAN)
- Metropolitan Area Network (MAN)
- Wide Area Network (WAN)
- Global Area Network (GAN)
- Internetwork
 - Intranet
 - Extranet
 - Internet

There are 3 Basic Hardware Components

- Network Interface Cards
- Repeaters
- Hubs
- Bridges
- Switches
- Routers

9. What is Software Design? Is a process of problem-solving and planning for a software solution? After the purpose and specifications of software are determined, software developers will design or employ designers to develop a plan for a solution. If the software is "semi-automated" or user-centered, a software design may involve user experience design which helps to determine those specifications. If the software is completely automated (meaning no user or user interface), a software design may be as simple as a flow chart or text describing a planned sequence of events.

A software design may be platform-independent or platform-specific, depending on the availability of the technology called for by the design. There are many aspects to consider in the design of a piece of software. The importance of each should reflect the goals that the

software is trying to achieve. Some of these aspects are Marketability; Usability; Packaging; Extensibility; Robustness; Reliability; Fault-tolerance; Security; Maintainability; Compatibility; Modularity and Reusability.

10. What is testing in a computer program? Testing is the process of executing a program to find errors. To make our software perform well it should be error-free. If testing is done; Software testing is the process of evaluating and verifying that a software product or application does what it is supposed to do. The benefits of testing include preventing bugs, reducing development costs, and improving performance.

11. What is Re-testing in a computer program? Re-testing is essentially means testing something again. Retesting has tests explicitly designed to check whether known bugs have been fixed. Regression testing isn't targeted testing for known defects. Retesting does not focus on the previous version's functionality. Instead, it aims to check whether functionality has been restored following a bug fix.

12. What is Regression testing? Testing software that was working, but now, due to updates, might not be working. And when you are regression testing, you're testing something that you've tested numerous times before.

13. What is Software? Software is a set of instructions, data, or programs used to operate computers and execute specific tasks. It is the opposite of hardware, which describes the physical aspects of a computer. Software is a generic term used to refer to applications, scripts, and programs that run on a device. The programs and other operating information used by a computer.

14. What is Computer hardware? The hardware computer engineers are involved in researching, designing, developing, and testing the computer hardware as well as supervising its production and installation. Hardware is the term applied to computer chips, circuit boards, computer systems, and other equipment like keyboards, modems, and printers. On other hand computer software engineers, deal with designing and developing software systems that control computers and are called simply, computer engineers.

15. What is Hardware Architecture? Hardware culture refers to the identification of a system's physical components and their interrelationships. This description, often called a hardware design model, allows hardware designers to understand how their components fit into system architecture and provide software component designers with important information needed for software development and integration. A hardware architecture is primarily concerned with the internal electrical interfaces among the system's components or subsystems, and the interface between the system and its external environment, especially the devices operated by or the electronic displays viewed by a user. It becomes imperative to understand clearly the definitions of a hardware architecture that allows the various traditional engineering disciplines (e.g., electrical and mechanical engineering) to work more effectively together to develop and manufacture new machines, devices and

16. What are R and D in computer science? R&D stands for research and development and it is all about innovation. In Europe, the term is often expressed as RTD, standing for research and technical development. It is about researching and developing new technologies that will shape the market and the future.

17. What is Health Information Technology (HIT)? Health information technology (HIT) is "the application of information processing involving both computer hardware and software that deals with the storage, retrieval, sharing, and use of health care information, health data, and knowledge for communication and decision making".

18. What is Computer Provider Order Entry (CPOE)? Or also called Computer Physician Order Entry (CPOE) CPOE is for ordering medication. A more advanced form of CPOE will also include lab orders, radiology studies, procedures, discharges, transfers, and referrals.

19. What is Clinical Decision Support System (CDSS)? CDSS provides treatment recommendations for physicians and nurses. The term covers a variety of technologies ranging from simple alerts and prescription drug interaction warnings to full clinical pathways and protocols. CDSS may be used as part of CPOE and EHR.

20. What are Picture Archiving and Communications Systems (PACS)? PACS technology helps in capturing and integrating diagnostic and radiological images from various devices (e.g., X-ray, MRI, Computed tomography (CT) scan). PACS is a technology used to store and digitally transmit electronic images and reports. They can be stored on Cloud Server, for easy access by authorized treating doctors from any part of the globe. The facility links multiple medical imaging devices such as CT, MRI, Ultrasound, X-ray, etc. by converting files into the DICOM format, which enables them to be moved to any device or workstations for easy access and review by the healthcare providers from any part of the world provided they are authorized to view.

21. What is Bar Coding? An optical scanner is used to electronically capture information encoded on a product. This information is used to prescribe medication to the patients.

22. What is the Development of a Computerized Medical Record Management System? The Development of computerization in the field of medical records was started in the early 1960s by storing the patient sociological information, which is retrieved as per the requirements. The clinical information including diagnostic and operation indices was also stored separately which reduced the manual work carried out for statistical purposes.

Each individual department - medical, surgical, laboratory, radiology, wards, and administration was equipped with personal computers, which operate individually, hence whenever information is required from a particular department, the information was retrieved from that particular computer.

The invention of the Local Area Network (LAN) and Wide Area Network (WAN) made these individual computers to be linked with the help of the central server. Through this type of networking system, the data were made available at any part of the hospital where the computers are connected to the central server. Even the healthcare organizations which are geographically located at different areas were also linked through the telephone lines through the modem. This has considerably reduced the time for retrieving the information, within and outside the health care organization as the information was online.

Earlier, the data that was fed into the computer was able to be read through the monochrome monitor and the information could be printed in a hard quality printer through which the diagrams and other pictures printed only on single color were not clear. But with the latest

hardware technology, color monitors are available, by which any image could be seen in its real color. Printing technology has also developed, as there are many types of printers with a wide range of options available, which has the greater speed to print at 100 even more pages per minute and to quality of a real photograph. This has given a wide range to present the data in different forms and to print the photo-sensed images from the medical records.

One of the important and latest developments in the field of computers is the Scanner, the technology of the scanner is the same as the photocopying machine, but instead of getting a hard copy after the image is scanned in the photocopier machine, the image is stored in the magnetic medium. The scanned images can be further magnified and viewed or printed for the clarity and clearness of the findings. The application of this technology in the field of the Medical Records has eased the process of retention of the inactive records by scanning the inactive records and storing in the magnetic medium. This has also paved the way for the Electronic Patient Record, as almost all the clinical information including the diagnostic results can be scanned and viewed through the monitor. In some of the developed countries the physical records were not maintained, instead, the records are documented by typing the information straight into the computer, and the diagnostic images are scanned and stored which is online. Once the information has become inactive it will be stored in the secondary storage devices for future reference.

23. What is an Administrator's Role in the Development of a Computer System? Administrators (the policy and decision makers) must take direct responsibility for careful planning and management of information systems in their institutions to have useful information that can fulfill the objectives of health services such as 1. Patient Care Services, 2. Medical Quality Assurance, 3. Cost Control and Productivity Enhancement, 4. Utilization Analysis and Demand Estimation, 5. Program Planning and Evaluation, 6. Simplification of Internal and External Reporting, 7. Medical Education, 8. Clinical Research. The most important aspect is to accomplish these set objectives, it helps in the estimation of demand for services that are usually to be managed with limited resources.

Computers have become an indispensable part of Health Institutions that support in multi various services and especially in Health Information Management. Because of its invaluable services, the administrators have to understand the basic logic of computerization, the health information such as in designing, developing, and obtaining various kinds of information required through the system which functions effectively. A simple computerized system consists of one or more elements of input, a conversion process, and one or more outputs the flow from that process. To develop dynamic health information systems in health services organizations, the need to develop a master plan that requires studying different aspects, should at least include the following: i. Objectives of the Master plan; ii. Whether the existing system is meeting the objectives? iii. Need for a new system or alteration to the existing system; iv. Priorities and phases of system introduction; v. Budgetary requirement (Cost-effectiveness); vi. Time schedule to obtain target; vii. Monitor the progress to prevent obstructions.

After having studied in depth the above 7 issues, the development of new computerized system should be carried out in the following 6 phases: i. System Analysis; ii. System Design; iii. System Programming; iv. System Testing; v. System Implementation; and vi. System Evaluation.

While in the process of implementing the objective of the plan, the cost-effectiveness and anticipated benefits play a very important role and decisions have to be made to suit both. The next important aspect is the system integration ability that should communicate with one another and share information. Integration can be approached through a total system approach by employing a central network distributing data process. The lead in the development of a master plan lies with the Management, who must carefully monitor specific systems development efforts that spring from the plan to be sure that good design practice is followed.

24. What is System analysis? System analysis is the process of collecting, organizing, and evaluating facts about information system requirements and the environment in which the system will operate. System analysis is a necessary first step in the design and implementation of any health information system. Guided by the principles and priorities set forth in the master plan for information system development, systems planners should conduct a careful study of functional requirements in advance of the design stage of a project.

System development projects in the health services organization should be pursued by a project team. The team should include a balanced combination of people who know the organization well and people who have technical knowledge of system analysis and design techniques. The project leader, chosen for this task should not be a narrow specialist in computer technology but rather should combine systems knowledge with experience and understanding of the health services organization and its operations. At least one representative of each department to be using the information or generating data in the new system should be assigned to serve on the project team.

The technically qualified Medical Records Manager is the best choice to be a project leader. The Project leader along with the System Analyst should discuss in depth the existing systems of the Medical Record Department - analyze the problems experienced and needs as the Medical Record Department is the primary area for the storage, process, and retrieval of Health Care Information. Later the Medical Records Manager and the System Analyst should meet the Heads of the Departments and the operational staff in each and every department of the hospital to assess the existing system and to collect various information concerned to problems experienced and their preferences and suggestions.

25. What is System Design? System design is the creative, technical process of converting information system requirements into a detailed set of specifications for a system. Systems design is the technical process of converting information system requirements into a detailed set of specifications for the new systems. A project team organization should be continued during the design phase, with operating and management personnel used for “reality checking” the design specifications. The final product of the system design effort should be a formally prepared set of system specifications. Decisions to whether or not to proceed with implementation should be reached upon completion of the system design.

26. What is System Programing? The pre-designed program can be purchased, or it can be developed as per the requirements which will be tailored made. The pre-designed program may be easily available or time-saving but it may not be suitable in Toto. The choice depends on the cost of each option time available to write software and the availability of the programmers. Typically in larger organizations, the computer programmers (or a combination of analysts/programmers) are part of the permanent professional staff. The smaller firms, without programmers, can hire the outside programmer service on a contract basis.

27. What is System Testing? System testing is a critical process for the program development. The objective of the system testing is to prove that there are no errors in the programs. However, this is virtually impossible, since analysts cannot prove that software is free and clear of errors. Therefore, the most useful and practical approach is with the understanding that testing is the process of executing a program with the explicit intention of finding errors, that is making the program fail. The tester, who may be an analyst, programmer, or specialist in software testing is actually trying to make the program fail, the successful test, then, is one finds an error.

28. What is System Implementation? Once a thorough systems analysis has been completed, a design approach selected, and system design specifications prepared and approved, then implementation of the health services information system can precede. The steps in implementing a health information system are a. Equipment acquisition; b. Computer programming; c. Training; d. File conversion; e. Installation of the antivirus programs; f. Security and g. Documentation.

a. Equipment Acquisition: Equipment requirements apart from the computers and software include, furniture, lighting, air-conditioning, data and power cabling, communication, etc. ordering, and installation must be carefully planned. Sufficient lead time must be allowed to insure delivery when needed. In some cases, renovations and site preparation will also be required, and good space planning must accompany all new equipment orders.

b. Computer Programming: The system design specifications include requirements for computer programs that are to be written during the implementation phase of a systems project. Programming is a technical task requiring trained staff. If system requirements are documented properly, the programming task is simplified considerably.

c. Training: An extremely important element of system implementation is the training of personnel who will operate and use the new information system. The training should include general orientation *for* top management and more specific training for departmental managers and first-line supervisors.

d. File Conversion: Another task that is sometimes overlooked in implementation planning is file conversion. Many, if not most, health information systems will require that one or more master data files be converted from manual form to electronic storage in the computer, or that one computer system file be converted to another, before operation.

e. Antivirus Program Installation: The virus is a biological disastrous part of the program which can obliterate the entire system program. Hence in order to avoid the invasion of viruses, anti-virus tools, e.g. Norton, MacAfee, Dr. Solo Men, and Trend Micro, anti-virus kits can be installed on the server or the personal computer. The preventive measures should be taken that the users should use the computer for the purpose for which it has been designed or installed in order to avoid invasion of external viruses. The new type of computer without a hard disk called a Net PC can solve the problem of external viruses.

f. Security: Security is one of the important elements to avoid unauthorized user access. Being the patient's confidential medical information, it is imperative to take all level security measures. There are different types of security levels they are system level, application level, and module level. System-level security allows authorized users who have the

password to log in to the centralized server. Application level security will restrict to the specialty of the user (e.g. store personnel will have access only to the store's information). Module level security restricts the user to using the specific module of the system (e.g. appointment module in the medical record department will be accessible only to the authorized)

g. Documentation: Final aspect of system implementation is the completion of all system documentation, both procedural and machine-related. Documentation should be a continuous process carried out during all phases of the system project.

29. How many types of Implementations? There are two types of implementation such as i. Phase-by-phase implementation, and ii. Total Implementation:

i. In a phase-by-phase implementation, the large information system will be subdivided into several small systems, e.g. computerized medical records system may include, a registration system, appointment system, master patient index system, billing system, inpatient admission system, inpatient records processing system, coding system, discharge analysis system, patient monitoring system, etc. The advantage in this phase-by-phase implementation is that there would not be any problem during the transition of the old system to the new system as it is implemented in only one area at a time, and problems are rectified then and there. This phase-by-phase implementation will take a longer time for the complete implementation of the entire system, and lot of changes will have to be done then and there to rectify the problem, in some cases it may deviate from the designing phase as it is modified several times. During the process of rectification of the new system, the old system can be utilized to run without any hang-up.

ii. The total implementation is implementing the new system in all the areas, i.e. in all the areas where the existing system is ongoing. The main disadvantage of this system is that all the processing has to be stopped during the period of transitions. Secondly, if any problem arises from the new system, then the users will be in chaos and sometimes even the old data would be lost.

30. What is System Evaluation? The system evaluation phase is one of the important tasks to be performed after the implementation phase. In this phase, the performance of the new system has to be evaluated by conducting various tests including the collection of information from the various levels of the users about their views on the new system, and the outcome of the results has to be seriously evaluated and whatever; simple changes required have to be done. Whatever, the system cannot be constant and needs to be re-evaluated regularly, to meet the latest requirements in accordance with the developments.

31. What is System Maintenance? Information systems require both scheduled and unanticipated maintenance once they are working. No matter how well a system is designed and regardless of how well it has been tested, there inevitably will be errors uncovered after the system goes into production. Systems analysts and programmers must be available to find such problems quickly and to initiate immediate corrections.

32. What is the difference between the manual and computerized appointment system? There should be an online linkage between the clinical departments and the supporting services of the outpatient department with the accident and emergency

department, inpatient wards, operation theaters, ICU, CCU, laboratory, radiology, blood bank, etc.

Difference between the Manual and Computerized Appointment System	
<i>Manual patient appointment system</i>	<i>Computerized appointment system</i>
• Appointment can only be made in the secretariat of the unit in question	• Appointments can be made from any terminal
• For different services different secretariats should be approached	• The patient has to approach one place only
• Appointment can only be made during working hours	• Appointments can be made night and day
• If a patient forgets his appointment dates, it will be difficult to retrace this information	• Appointment dates of patients are always available via terminal
• The canceling of an appointment involves a lot of searching work	• The canceling of an appointment hour automatically generates messages to all patients with names and addresses.
• For several appointments per patient intensive telephone traffic is required	• Telephone traffic is reduced
• Statistics information only available via intensive efforts	• Statistical information can easily be inferred from the recorded data
• Many mistakes appear to be made in the field of the identification of patients	• Mistakes are reduced
• Mail reminders have to be carried out manually	• Mail reminders are automatically printed. This is especially useful for certain therapeutic services which schedule patients on a recurring basis of weeks or months into the future.
• Communication with the central medical records department by sending the request	• Communication is automatically established

33. What is Appointment System? One of the main objectives of the appointment system is to save the waiting time of the patients and to render maximum patient care by the physicians on schedule, by bringing the medical record, physician, and patient on the day of the appointment to the clinic at the scheduled time.

34. What is the difference between Manual record and a Computerized medical record? Comparison between Computer-stored *versus* manual handwritten medical records.

<i>Traditional medical record</i>	<i>Computerized medical record</i>
• inaccessibility (one user, one location often not always in the same place), parts of the records are geographically widely distributed	• Decentralized, simultaneous access all the time
• Passive: unable to trigger certain actions	• Active it can trigger certain actions

	according to the data
• Non-standardized information handling	• Standardized information storage increases legibility; it allows communication between departmental systems and can lead to an improvement of quality assurance
• “Manual” linkage	• “Increased” linkage with external healthcare providers
• More risks of being incomplete (by lending, less control of completeness)	• Can improve completeness by additional checking mechanisms at data entry
• No flexible data representation (one representation only)	• Flexible representation of data following various “views” tailored to the needs (on individual/patient basis or global)
• Time-consuming to explore for clinical or financial studies	• Excellent basis to conduct clinical and financial studies
• No risk of technical failure	• Risk of technical failure and unavailability depending on the hardware / Software
• Lower cost (only entry cost not overall cost)	• Higher cost for installation, training and management of the system
• Physicians enter handwritten data manually	• Probable resistance and fear of physicians of entering data into the computer
• Protection, confidentiality; easy to access	• Protection and confidentiality are more difficult to maintain (tracking and logging)

35. What is Telemedicine? Nowadays, medical care and medical data are produced at many locations: hospitals, general practitioners, nursing homes, ambulatory health care centers, patients' home, etc. patients with varying disabilities are often homebound and need constant surveillance there because if assisted they could lead better or normal, social and economically productive lives. Instead of moving the patient to the healthcare institutions, as it is today largely the case, therapy, and diagnostic procedures will be brought to the patient in some situations.

Telemedicine is the integration of two well-established disciplines, medicine and telecommunication. The investigation, monitoring, and management of patients and the education of patients and health care staff using systems that allow ready access to expert advice and relevant patient information, no matter the patient is located. This means the patient will be treated in a familiar environment with additional facilities, e.g. clinical findings are interpreted by experts located at remote centers of excellence, even transcending national boundaries if necessary. Technical elements that will contribute to telemedicine are

not only network facilities but also patient data care (PDC) that can facilitate medical data transfer and information exchange. Its infrastructure creates a lot of advantages. Medical expertise can be brought (wherever present) to remote areas where there is a lack of skilled personnel.

36. What are some specific Telemedicine applications? The following are some of them:

- Teleradiology*, which offers the possibilities for image transmission including non-standard image formats, very high resolution, error-free transmission and short transmission times.
- Hemodialysis*, which offers the facility to monitor patients centrally from a nephrology unit.
- Teleconsultation*, which uses telecameras to allow professionals at different locations to consult each other.
- Teleanalysis*, which tests the validity of blood and urine tests executed at remote laboratories.
- Teleobstetrics*, which offers the possibility of monitoring, fetal heart signals and newborn vital signs at home.
- Telencephalogram*, which transmits EEG, signals from remote hospitals into a neurology center.
- Telecardiology*, which looks at the transmission of ECG signals from different locations into a cardiology center.

37. What are Electronic Health Record Limitations? Designing, marketing, and implanting information systems that provide access to clinical data and process data into information that contributes to knowledge for improved quality of care has been challenging. A number of major stumbling blocks are being addressed in clinical and technological areas.

38. What is Clinical data Limitations? Clinical data are textual and contextual, but computers have been designed primarily to manipulate discrete, factual data. Computers are very good at storing large volumes of data and performing mathematical formulas or clearly defined retrieval functions. However, they do not have the human capability of “thinking” or making associations or assumptions on their own. A good example of clinical data limitations may be to consider how a computer can process a simple statement such as “the skin is red.” Interpretations of “red skin” depend on the context to define what is meant by “red.” Does red describe a burned area, a rash, or an increase in temperature? What is the cause – fever, embarrassment, allergy, burn, high blood pressure, or something else? Unless we are satisfied with simply recording this information and making it available as documentary evidence of something caregivers observed, the field of computer science must learn how to structure data to associate them properly with other data for future processing.

39. What initiative that is helping the adoption of standard, vocabulary? The adoption of the comprehensive SNOMED vocabulary by the National Library of Medicine (NLM) such as SNOMED, and its use in structured data will open the door for much broader use of clinical decision support systems. In addition to data comparability that could be achieved through the adoption of a standard, comprehensive vocabulary, the clinical practice re

more information today than it did in the past.

40. What are Technological Limitations? The care of patients requires direct interaction between patients and caregivers. Pen and paper that slip into a pocket are much easier to manage when a caregiver is making rounds and administering to patients. New, smaller, wireless devices, such as PDAs, notebook computers on carts, and even cellular phones with data capture capability and improvements in voice and handwriting recognition are beginning to address technological limitations. So, too, are efforts to redesign care processes that better incorporate the use of computers.

Another technological limitation is the extent to which disparate computer systems can be made to work together and exchange data. Standard protocols have been developed to help, but vendors must adopt the standards and conform to their requirements explicitly. In some cases, vendors have developed highly proprietary systems to encourage providers to buy all components from one vendor. When the vendor does not offer specific components, the provider is faced with doing without until the vendor creates the component or buys the component from another vendor and hopes an interface (a special program to enable data exchange) can be written that will permit the data to flow across the two different vendor platforms. The lack of interoperability between systems has sometimes meant that providers have been unable to adopt HER systems as rapidly as they would like.

41. What is Cost and Value Limitations? A major consideration for any provider adopting EHRs is cost. Today, all healthcare providers are seeing reduced revenue and increased costs. The EHR is considered an investment that must pay itself. The systems undoubtedly cost a significant amount of money in addition to the time required to tailor them to the environment and to manage the degree of change they create. For example, it may be necessary to create interfaces enabling independent systems to communicate with one another and with the EHR. All of the application templates must be populated with the provider's specific requirements, clinical practice guidelines, any unique terminology, their own formulary and change data, and many other requirements. Many have questioned whether the EHR can truly pay for itself. Part of the issue is that both cost and benefits are somewhat elusive. Because the EHR depends on the integration of all other clinical administrative systems, sometimes some of this cost is attributed to the HER when it should be attributed to processes that needed attention anyway.

42. What is Standardization Limitations? As alluded to in the preceding descriptions, the lack of standardization—to define the EHR, write interfaces, compare data, ensure data quality, and perform many other functions associated with EHRs.—also has made it very difficult to achieve widespread adoption.

It is not that some standards do not exist. For example, there are standards for writing interfaces, but not every vendor is required to use them and they contain a high degree of optional. Moreover, there are standard vocabularies, although their number, until recently converted into SNOMED, has equated to a tower of Babel.

43. What is Change Limitations? Also alluded to in the above descriptions of limitations is the underlying issue of the degree of change imposed by EHR systems. Although somewhat dependent on the computer skills of healthcare professionals, the immensity of change begins with learning how to use a computer. Many healthcare professionals today still do to routinely use a computer at home or at work, and need basic computer skills. Workflows and processes in healthcare also represent enormous obstacles. Despite the fact that new procedures, tests, and drugs are constantly being developed, health professionals have a very ingrained sense of the process. In fact, such habits enable them to react quickly to rapidly changing circumstances. It is extremely difficult to change these processes to accommodate

what many healthcare professionals still view as “only” documentation rather than information that is a source of knowledge and value. The EHR should introduce sufficient change so as to improve quality, cost, and access to healthcare, but still, reasonably reflect processes essential to healthcare delivery.

44. What are E.H.R Functional Requirements Specifications? The requirements for the functionality of the Electronic Health Record will vary and must function under ethical and legal principles specific to the time and place. Different countries may have diverging functional requirements for the content or usage of electronic health records, which can require radical changes in the technical makeup of the EHR implementation.

Health Level Seven, Inc. (HL7) defined the first EHR functional requirement standard in February 2007. The standard outlines important features and functions that should be contained in an EHR system. The standard’s Functional Model contains approximately 1,000 conformance criteria across 130 functions, including medication history, problem lists, orders, clinical decision support, and those supporting privacy and security. The function list is described from a user perspective and enables the consistent expression of EHR system functionality, while the conformance criteria serve as a reference for purchasers of EHR systems and vendors developing EHR software. The EHR standard functional model has proven to be a powerful tool for the Certification Commission for Health Information Technology (CCHIT). The HL7 standard for EHR systems has been extremely valuable for CCHIT's development of certification criteria.

Many of the requirements of an EHR are identified based on a fundamental functional understanding of what an EHR is intended to achieve, whether implemented as a middleware service or as a sub-component of a healthcare information system. The EHR must enable the communication of healthcare information to support shared patient care, improved quality of care, and effective resource utilization. This includes the support of evidence-based care and the rich ability to navigate and analyze EMRs for a wide range of purposes. Users must be able to access health record information from whichever system and in whatever format it is originally stored.

45. What are functional Requirements? The functions are classified as below: Administration requirements; Clinical documentation requirements; Data export requirements; Data import requirements; Clinical decision support systems requirements; Prescribing requirements; Orders management requirements; Reporting requirements; Results management requirements; and Privacy protection and security requirements.

46. What is Administration Requirements? The clinical basis for this requirement is to provide comprehensive benefit eligibility (health plan, Medicaid, Medicare, etc.) information, including managed care information. EHR will have the ability to conduct eligibility checks for all commercial health plans and Medicaid from within the application. The functional requirement is that the EHR system can verify and document patient eligibility (e.g. insurance information) and patient demographic information. The system shall allow appropriate clinical staff to document and/or update patient identifying and financial information, and verify insurance eligibility. The system can print out medical summaries including medication and diagnosis lists.

47. What is Clinical Documentation Requirement? The clinical basis for this requirement is the clinical staff can document patient medication history electronically from the patient.

The clinician shall confirm previous medications and prescribe any potential new medications or make dose changes. The clinician shall come up with a treatment plan and creates any new orders. The clinician shall have the ability to create treatment plans and create and electronically submit orders such as labs, radiology, physical therapy, and other supportive services. Specialists can document consult notes, recommendations, and clearance. New medications or changes are ordered. The functional requirement is that the EHR will have the ability to perform basic clinical documentation, including medication history. Current, active medications are viewable on demand. The system shall have the ability to display a complete medication history from information available within the EHR. The system can document a consultant note with appropriate clinical information from the medical record, recommendation, and clearance.

48. What is Data Export Requirements? The clinical basis for this requirement is that the provider will receive through their IT system, a complete and accurate medication history from multiple data sources in a single view. The medical history shall include the following in a clinically usable format: differences between acute/chronic medication, sample history, different drug programs, medication reconciliation, and medication renewal history/compliance. Medication Compliance includes the drug name, dose, route, duration, prescriber's name, area of prescription, prescription order date, prescription filled date, other chronic medications, and so on. The functional requirement is that the EHR will capture and export data elements required for defined medication reconciliation. Ambulatory EHR can export required medication reconciliation data elements, according to local standards and sharing rules. The system shall have the ability to capture patient medication and dispense history electronically from available electronic sources and render information to clinical users in a single view. This data should also be available for data export. It is strongly encouraged that EHRs immediately develop the capability to export and import structured medical summary data, including medication histories.

49. What is Data Import Requirements? The clinical basis for this requirement is that the physician shall receive email alerts/messages directing her/him to a Care Consideration regarding one of her/his patients. A Patient Health Record (PHR) system uses Clinical Decision Support Systems (CDSS) to create a set of Care Considerations for a patient. An alert can be sent either to the Health Insurance Exception (HIE) or directly to the EHR that contains a link to the PHR for the provider to view the CC document. The functional requirement is that the EHR shall import alerts from the HIE as per standards determined by the Regional Health Information Organization (RHIO). The EHR is able to retrieve (manually or automatically) aggregate clinical data to review. The system shall have the ability to incorporate data from another remote system's assessment tool data. It is strongly encouraged that EHRs immediately have the capability to export and import structured medical summary data.

50. What is Decision Support System Requirements: The clinical basis for this requirement is the quality measurement. The system shall allow for frequent updates to the list of required data elements and numerator/denominator/exclusion statements for each measure. The system shall populate the EHR so that when a patient history of applicable life habits (nutrition, obesity, alcohol consumption, smoking, etc.) is documented, the indicator to advise the patient to stop the behavior is automatic and there is a standard field with structured nomenclature for the documentation of advice. The functional requirement is that the EHR system will allow additional required data elements to be added to the system based on enhancements to measures. The system shall populate the EHR so that when a

patient history of applicable life habits is documented, the indicator to advise the patient to stop the behavior is automatic and there is a standard field with structured nomenclature for the documentation of advice.

51. What is ePrescription Requirements? The clinical basis for this requirement is that the system shall have decision-support capabilities. Technology allows cardiologists to determine if a prescription drug is on the formulary of a patient's insurance plan. Formulary information is provided through EMR or passed through the HIE by the RHIO. The system shall have decision-support capabilities around medication alerts. The system shall be capable of allowing Emergency Department (ED) physicians to verify known patient allergies prior to completion of ED prescription. The functional requirement is that the EHR has Rx decision support for drug-drug interactions and allergy checking and has mandatory alerting for drug-drug interactions, and allergies in the eRX process. The system shall have the ability to alert the provider to medication contraindications. The system shall support eRX capability according to standard protocols, and drug-allergy and drug interaction checking, with real-time feedback to the ordering clinician. The system shall be capable of allowing a physician to verify known patient allergies prior to the completion of a prescription.

52. What is Order Management Requirements? The clinical basis for this requirement is that the system must capture and track the referral and track that the appointment was kept, results reviewed and sent to Primary Care Physician (PCP), and that the PCP has communicated with the patient, and where available include reasons for lack of completion. The EHR shall allow for electronic referrals and be accessible through the HIE. The vendor would maintain referring physician table with phone numbers. The clinician shall confirm previous medications and prescribe any potential new medications or make dose changes. The clinician shall come up with a treatment plan and creates any new orders. Clinicians shall have the ability to electronically submit orders such as labs, radiology, physical therapy, and other supportive services. The functional requirement is that the system must capture and track the referral and track that the appointment was kept, results reviewed and sent to PCP, and that the PCP has communicated with the patient, and where available include reasons for lack of completion. The EHR shall allow for electronic referrals and be accessible through the HIE. The vendor would maintain referring physician table with phone numbers. If electronic ordering is not live, the system can create customized order forms for e-fax to the relevant facility.

53. What is Reporting Requirements? The clinical basis for this requirement is that the system shall have the capability to automatically identify patients who meet the denominator requirements of each quality measure. Quality measures are still to be determined by projects. The system shall have the capability for the provider to manually select/deselect a patient as part of a panel of patients who are relevant/not relevant and qualified/not qualified for specific quality measures. The functional requirement is that the system shall have the capability to automatically identify patients who meet the denominator requirements of each quality measure. The system shall have the capability for the provider to manually select/deselect a patient as part of a panel of patients who are relevant/not relevant and qualified/not qualified for specific quality measures. The panel can be selected using ad hoc or embedded reporting functionality.

54. What are Result Management Requirements? The clinical basis for this requirement is that the system shall send the lab request electronically. Lab results are populated

electronically into the EHR with flags for abnormal results; a reminder is set in EHR for a recommended time frame for the next lab test. All lab vendors must provide a compendium with mapping to Logical Observation Identifiers, Names, and Codes (LOINC), and must send LOINC mappings as determined by the RHIO.

The functional requirement is that the lab results are populated (imported) electronically into the EHR with flags for abnormal results. The EHR must accept electronically delivered lab results. The EHR must accept LOINC-mapped electronic lab results if available from the source lab.

55. What is Privacy and Security Requirements? The policy basis for this requirement is: in the event that an RHIO becomes aware of any actual or suspected privacy and/or security breach, either through notification by a participant or otherwise, the RHIO shall immediately investigate (or cause the applicable participant to investigate) the scope and magnitude of such actual or suspected breach, and promptly identify the root cause of the breach. Physician practices have a parallel requirement to investigate the scope, magnitude, and root causes of suspected breaches. In the event of a privacy and/or security breach, the RHIO shall mitigate (or cause the applicable participant to mitigate) to the extent practicable, any harmful effect of such privacy and/or security breach that is known to the RHIO or the Participant.

The functional requirement is that the system must permit a person with administrative access to log into the system to investigate a potential breach. The system must have ad hoc query capability to assist in investigating potential breaches. The system must allow an administrator to terminate all users' access to a specific patient's data, or discontinue a user's access to the system in the event of a breach. The system must be able to determine when an "access" has occurred and log that event, in order to take corrective action, comply with State notification requirements, and potentially inform patients of a breach of their information.

56. What are Functional Requirements vs. Technology? The technologies often included within requirements are difficult to generalize to any potential EHR implementation as they are often expressed in terms of the technology envisaged by the authoring project or team. However, there are a small number of themes that are probably generalizable to any kind of implementation and are mentioned for completeness. A specification for the information model of an EHR would probably not explicitly demonstrate conformance in the areas listed below:

- Information models for messages
- Conformance to international standards
- Record server and persistence, interfaces, and services
- Performance and concurrent use
- Version control
- Exceptions and errors

57. What is the Systematized Nomenclature of Medicine- Clinical Terms (SNOMED CT)? SNOMED was developed to facilitate the storage and retrieval of detailed clinical information. SNOMED is the result of collaboration between the College of American Pathologists (CAP) and the United Kingdom's National Health Service (NHS). The five important domains of SNOMED are:

58. What is Laboratory Result content? The SNOMED-CT standard is used to exchange results of laboratory tests between facilities.

59. What is Non-Laboratory Interventions and Procedures? The SNOMED-CT standard is used to describe specific non-laboratory interventions and procedures performed and delivered.

60. What is Anatomy and Physiology in SNOMED-CT? SOMED-CT anatomy standard described anatomical locations for clinical, surgical, pathological, and research purposes.

61. What is Diagnosis and Problem Lists in SNOMED-CT? The SNOMED-CT standard broadly defines a series of brief statements that catalog a patient's medical, nursing, dental, social, preventive, and psychiatric events and issues that are relevant to that patient's healthcare such as signs, symptoms, and defined conditions.

62. What is nursing care in SNOMED-CT? The SNOMED-CT standard defines terminology that is used to identify, classify and name the delivery of nursing care. Sub-domains are derived from the Nursing Process and American Nursing Association (ANA) recognized Nursing Minimum Data Set (NMDS), which emphasized nursing assessment, diagnosis, interventions, and outcomes of nursing care.

63. What are Logical Observation Identifiers Names and Codes (LOINC)? LOINC was developed to facilitate sharing of laboratory results with hospitals, physicians, third-party payers, and other users of laboratory data. LOINC provides universal names and codes for identifying laboratory and clinical results.

64. What is CEN prEN 13606 HER.com? The CEN standard EN 13606 "Electronic Healthcare Record Communication" (EHRcom) is an EHR standard developed by the technical committee on Health Informatics of the European Committee for Standardization (CEN/TC 251).

65. What is Health Level 7 (HL7)? HL7 is the healthcare application level standard that ensures communication across systems, primarily within hospital information systems (HIS). The HL7 has set standards for transmitting demographic data, order, and patient observations, such as laboratory results and historical and physical examination findings. It has message rules for appointment scheduling, referrals, problem list maintenance, and care plans.

66. What is HL7 Clinical Document Architecture? HL7 CDA has developed a standard called Clinical Document Architecture for document markup. All the documents should be in XML. The HL7 Clinical Document Architecture specifies the standards for encoding, structure and semantics of clinical documents. HL7 recently release the Child Health EHR standard. The five major topics essential for child health care are addressed. They are Immunization Management; Growth tracking; Medication dosage; Data norms and Privacy. "The intent of the child health functional profile is to assist all child medical providers and associated IT vendors in helping to ensure safe, effective, and reliable care of children through the safe and effective use of information technology," commented Andrew Spooner, MD, chief medical information officer at Cincinnati Children's Medical Center and co-chair of the HL7 Child Health WG.

67. What is the Digital Imaging Communication in Medicine (DICOM)? DICOM is the standard in the radiology and cardiology imaging industry. The DICOM SR helps to exchange and manage images and image-related information. DICOM is also used in other image-related medical fields, such as pathology, endoscopy, dentistry, ophthalmology, and dermatology. DICOM was developed by the American College of Radiology/National Electric Manufacturers Association. It is now an independent and international Standards Development Organization (SDO).

68. What is DICOM Structured Reporting [DICOM SR?] All the medical reports are in a structured format and follow the DICOM Sr. The main features of structured reports are as follows:

- Presence of lists and hierarchical relationships
- Use of coded or numeric content in addition to plain text
- Use of relationships between concepts

Presence of embedded references to images and similar objects

69. What is Web Access to DICOM Persistent Objects (WADO)? WADO is a protocol (defined in DICOM Part 18) for retrieving DICOM objects such as reports and images. WADO provides a simple mechanism to access the DICOM objects from HTML sites or XML documents with HTTP/HTTPS protocol, using DICOM Unique Identifiers [DUIs].

70. What is National Council for Prescription Drug Program (NCPDP)? The aim of NCPDP is to “create and promote data interchange standards for the pharmacy services sector of the health care industry, and to provide information and resources that educate the industry and support the diverse needs of its members” (NCPDP, 2004, p 5). The NCPDP Telecommunication Standard Implementation Guide, version 5, Release 1, and equivalent NCPDO Batch Standard Batch Implementation Guide, Version 1, Release 0, were specified in the HIPAA Transactions and Code Sets regulation (August 17, 2000) for use for retail pharmacy claims, eligibility verification, and payment and remittance advice. Their NCPDP SCRIPT standard communicates prescription information, including new prescriptions, refill requests, fill status notifications, and cancellation notifications.

71. What is the Institute of Electrical and Electronic Engineers (IEEE)? Institute of Electrical and Electronic Engineers (IEEE) standards IEEE 1073 is a set of medical device communications standards, also promulgated by the International Standardization Organization (ISO) and known as ISO 11073. These standards communicate patient data from medical devices, such as patient monitors, ventilators, infusion pumps, and so on.

72. What is American National Standards Institute – Accredited Standards Committee X12-Insurance Subcommittee (ANSI-ASC X12N)? ANSI-ASC X12N provides messaging standards for electronic data exchange (EDI) of financial and administrative transactions. ANSI-ASC X12N develops standards in both X12 and XML formats. Their transactions for institutional (837I), professional (837P), and dental (837D) claims, coordination of benefits (837), eligibility inquiry and response (270/271), claims status inquiry and response (276/277), payment and remittance advice (835), and referral certification and authorization (278) are required to adopt if using electronic transactions under HIPAA. 7

73. What is IHE Retrieve Information for Display (RID)? The Retrieve Information for Display (RID) Integration Profile provides read-only access to patient-centric clinical information that is located outside the user's current application but is important for better patient care (for example, access to lab reports from the radiology department). It supports access to documents in formats such as CDA (Level 1), PDF, and JPEG. It also supports access to specific key patient-centric information such as allergies, current medications, a summary of reports, etc. for presentation to a clinician.

74. What is IHE Cross-enterprise Document Sharing (XDS)? Cross-enterprise Document Sharing (XDS) is another IHE specification. The XDS Integration Profile defines two basic concepts: Document Repository and Document Registry. A patient record (Document Repository) consisting of different clinical documents is organized by a Document Registry. To share these document registries standardized metadata, interfaces, and formats are required. Document registries, an emerging technology for indexing documents on a network, provide solutions to many of these challenges. A number of industrial and international standards organizations support current document registry standards.

75. What is Medical Mark-up Language (MML)? The MML is developed to set standards for medical data in Japan. MML instances are composed of an MML header and an MML body. The MML header includes information for data transmission, while the MML body includes several module items. The current version of MML followed is Version 3. MML version 3 was developed to exchange MML medical data with HL7 information.

76. What is AHIMA EHR Standards? The American Health Information Management Association (AHIMA) EHR standard help in the transition of paper-based records to EHRs. Practice standards include guidelines for the complete medical record in a hybrid environment, implementing electronic signatures, patient-provider e-mail communications, electronic data management, core data sets, and speech recognition technology.

77. What is ISO EHR Standards? ISO EHR Standards emphasize not on fictional requirements for an EHR but rather a set of clinical and technical requirements for a record architecture that supports using, sharing, and exchanging electronic health records across different health sectors, different countries, and different models of healthcare delivery. The primary users of this requirements standard will therefore be developers of EHR architecture.

78. What is ISO 18308 - "Requirement for E.H.R. Reference Architecture"? The development of ISO 18308 was undertaken in three separate stages. The first stage- It involved extensive literature and contact with domain experts to identify the EHR requirements. The second stage- It involved grouping the identified requirements under a hierarchical framework of headings. Third stage- It involved placing the final 123 requirements under a framework of ten major headings and 60 sub-headings.

79. What is ISO/DTR 20514 – E.H.R. Definition, Scope, and Context? The ISO/DTR 20514 was completed in the year 2004. The main objectives of this ISO standard are: Describe a pragmatic classification of electronic health records. Provide simple definitions for the main categories of HER. Provide supporting descriptions of the characteristics of electronic health records and EHR systems.

80. What is ISO Standards? ISO, the International Organization for Standardization, is a nonprofit organization that develops and publishes standards of virtually every possible sort, ranging from standards for information technology to fluid dynamics and nuclear energy. Headquartered in Geneva, Switzerland, ISO is composed of 162 members, each one the sole representative of their home country. As the largest developer and publisher of standards in the world, ISO fills the vital role of a medium for agreement between individual standards developers, spreading progress made by one country's local developers across the world to further the goal of standardization.

81. What is JACHO Standard? The Joint Commission (TJC), formerly the Joint Commission on Accreditation of Health Care Organizations (JCAHO) and previous to the Joint Commission on Accreditation of Hospitals (JCAH), is a United States-based non-profit organization that accredits more than 19,000 healthcare organizations and programs in the United States. A majority of state governments have come to recognize Joint Commission accreditation as a condition of licensure and the receipt of Medicaid reimbursement. Surveys (inspections) typically follow a triennial cycle, with findings made available to the public in an accreditation quality report on the Quality Check Web site. The declared mission of the organization is 'To continuously improve health care for the public, in collaboration with other stakeholders, by evaluating health care organizations and inspiring them to excel in providing safe and effective care of the highest quality and value.'

82. What are Health Insurance Portability and Accountability Act (HIPAA)? *The Health Insurance Portability and Accountability Act of 1996 (HIPAA; Pub.L. 104-191, 110 Stat. 1936, enacted August 21, 1996)* was enacted by the United States Congress and signed by President Bill Clinton in 1996. It was sponsored by Sen. Nancy Kassebaum, Title I of HIPAA protects health insurance coverage for workers and their families when they change or lose their jobs. Title II of HIPAA, known as the Administrative Simplification (AS) provisions, requires the establishment of national standards for electronic healthcare transactions and national identifiers for providers, health insurance plans, and employers. The Administrative Simplification provisions also address the security and privacy of health data. The standards are meant to improve the efficiency and effectiveness of the nation's healthcare system by encouraging the widespread use of electronic data interchange in the US healthcare system.

83. What is HIPAA Compliance? HIPAA, the Health Insurance Portability and Accountability Act, sets the standard for protecting sensitive patient data. Any company that deals with protected health information (PHI) must ensure that all the required physical, network, and process security measures are in place and followed. This includes *covered entities (CE)*, anyone who provides

treatment, payment and operations in health care, and *business associates (BA)*, anyone with access to patient information and provides support in treatment, payment or operations. Subcontractors, or business associates of business associates, must also be in compliance. The *HIPAA Privacy Rule* addresses the saving, accessing and sharing of medical and personal information of any individual, while the *HIPAA Security Rule* more specifically outlines national security standards to protect health data created, received, maintained or transmitted electronically, also known as electronic protected health information (ePHI).

84. What is Mobile Technology? Mobile technology is the technology used for cellular communication. Mobile code division multiple access (CDMA) technology has evolved rapidly over the past few years. Since the start of this millennium, a standard mobile device has gone from being no more than a simple two-way pager to being a mobile phone, GPS navigation device, an embedded web browser and instant messaging client, and a handheld game console. Many experts argue that the future of computer technology rests in mobile computing with wireless networking. Mobile computing by way of tablet computers are becoming more popular. The most popular tablet at the moment is the iPad, by Apple. Tablets are available on the 3G and 4G networks.

85. What is Future of Smart Phone? The next generation of smart phones is going to be context-aware, taking advantage of the growing availability of embedded physical sensors and data exchange abilities. One of the main features applying to this is that the phones will start keeping track of your personal data, but adapt to anticipate the information you will need based on your intentions. There will be all-new applications coming out with the new phones, one of which is an X-ray device that reveals information about any location at which you point your phone. One thing companies are developing software to take advantage of more accurate location-sensing data. How they described it was as wanting to make the phone a virtual mouse able to click the real world. An example of this is where you can point the phone's camera while having the live feed open and it will show text with the building and saving the location of the building for use in the future. Along with the future of a smart phone comes the future of another device. Omnitouch is a device in which applications can be viewed and used on your hand, arm, wall, desk, or any other everyday surface. The device uses a sensor touch interface, which enables the user to access all the functions through the use of finger touch. This device uses a projector and camera that is worn on the person's shoulder, with no controls other than the user's fingers.

86. What is the use of mobile in healthcare? Mobile devices help doctors and nurses by allowing them to keep accurate records of patients and their

prescriptions. The errors which could be caused by handwritten notes are minimized by digitized documents. Apps can be used to run automated prescription checks that have greatly helped healthcare providers.

87. What are the benefits of mobile devices in healthcare? With the help of such mobile health apps, providers receive real-time notifications on their smartphone on patient Emergency entries, admittance, releases, and movements. Additionally, medical checklists are activated in response to alarms, which helps standardize and simplify care on a case-by-case basis.

88. What is the use of mobile and wireless technology in health care industry? Modern equipment in medical industry uses wireless technology to transfer information. It offers greater accuracy, avoids manual tasks and anyone can access the data in real-time. New generation medical devices can be connected to wireless networks using Wi-Fi or Bluetooth and can be accessed remotely.

89. What is the role of IT and telecom in healthcare industry? They are the key through which medical records and other applications can be effectively connected between healthcare facilities. Advancements in telecommunications and IT have made it possible to monitor patients remotely and also to use more accurate methodologies to diagnose and treat medical conditions.

90. How do nurses use smartphone in patient care? Nurses used their smartphones to locate information about medications, procedures, diagnoses, and laboratory tests. Downloaded apps were used by nurses to locate patient care-related information.

91. What is the meaning of mobile application? A mobile app (or mobile application) is a software application developed specifically for use on small, wireless computing devices, such as smartphones and tablets, rather than desktop or laptop computers

92. What is Artificial intelligence? is the simulation of human intelligence processes by machines, especially computer systems. Specific applications of AI include expert systems, natural language processing, speech recognition, and machine vision. In its simplest form, artificial intelligence is a **field, which combines computer science and robust datasets, to enable problem-solving**. It also encompasses; Virtual Agent; AI Ethics; Explore AI services; Explore AI for cyber security. Artificial intelligence is the simulation of human intelligence processes by machines, especially computer systems. Specific applications of AI include expert systems, natural language processing, speech recognition, and machine vision. Artificial intelligence (AI) is the basis for mimicking human intelligence processes through the creation and application of

algorithms built into a dynamic computing environment. Stated simply, AI is trying to make computers think and act like humans.

93. What is AI in Healthcare? AI in healthcare is an umbrella term to describe the application of machine learning (ML) algorithms and other cognitive technologies in medical settings. In the simplest sense, AI is when computers and other machines mimic human cognition and are capable of learning, thinking, and making decisions or taking actions. The emergence of artificial intelligence (AI) in healthcare has been ground-breaking, reshaping the way we diagnose, treat, and monitor patients. This technology is drastically improving healthcare research and outcomes by producing more accurate diagnoses and enabling more personalized treatments.

94. What is Technology Infrastructure? Any software company offers a vast array of services, starting with the technology profile of a potential building surveying the condition of existing IT & telecommunications infrastructure. From this initial overview of your office design, project management planning of your IT infrastructure and technology relocation or expansion is put into a formal planning and implementation management overview for your new facility and the process begins. In some buildings, careful reclamation of valuable riser and closet space is essential to guarantee the availability of space for present and future building telecom requirements. Through the audit survey, one can assess a property's infrastructure, recommend actions to remedy any faults identified, and outline a telecom plan that ensures tenant access to service providers.

95. What is IT & Telecommunications infrastructure profiles include? The IT and telecommunications infrastructure profiles include an On-site assessment of a property's IT & telecommunications infrastructure & development potential. Inspection and Inventory of existing equipment, software, and telecommunications infrastructure. Review of existing equipment, software, and telecommunications current lease and license agreements. Survey of building tenants to determine use and future needs. Schematic design of representative communications distribution systems and Summary recommendations

96. What is a variety of Hardware, Software, and service needed? A variety of hardware and software needs to be purchased to facilitate the achievement of the overall goal of transforming teaching, learning, and leadership through the strategic application of technology. Specific objectives-such as the Technology Competency Certification Plan (TCCP)-also required purchases of appropriate software and/or services. Hardware purchases included laptops for principals, wireless handheld computers with keyboards and wireless access points, digital cameras and USB flash drives (a.k.a. pen drives), managed Web-based services such as Media-X's mVAL for Professional Development Appraisal System (PDAS) and LOTI walkthrough management.

97. What is Infrastructure: Hardware, Software, and Connectivity? A critical first step in establishing any clinical information system is to build reliable computing infrastructures that

start a “cultural shift” towards computerization. All physicians should become comfortable using computers in their offices well before an EMR system is installed. A physician should therefore have easy access to a computer that has standards applications (e.g., e-mail, word processing, Internet access), basic clinical software (e.g., patient education handouts, medical books online), and an enterprise-wide Internet suite that contains information such as hospital policies, paging directories, and local disease management guidelines. This computer network should be fast, reliable, and easy to use. If the Information System (IS) Department can successfully initiate this infrastructure, it can gain significant credibility with the physicians while concurrently laying the physical and cultural groundwork for future projects.

98. What is Standard Vocabulary? By far, the greatest challenge remaining in the arena of DW development is that of establishing a standard vocabulary. Currently, mapping data from individual applications to the central DW database is accomplished best through a Data Dictionary facility. Although data mapping and transformation can be accomplished effectively through a Data Dictionary, the vocabulary used in the DW has yet to be standardized. It is more likely to be an ad hoc vocabulary, modified as necessary to minimize translation from the individual application databases. However, as DWs become larger and are combined to form even larger searchable systems, it makes sense to have one, universal standard for vocabulary.

There have been numerous attempts at creating standard vocabularies for a number of niche areas in medicine. For example, the Digital Imaging and Communications (DICOM) in Medicine Standard specifies a nonproprietary data interchange protocol, image format, and file structure for biomedical images and image-related information.

99. What is Standards? A number of attempts have been made to make the sharing of medical information easier. Health Level -7 (HL-7) is a standard promoted as a means of permitting easier communication between computer systems. Any EMR system under consideration should support this standard. ICD and CPT codes are standards for billing and recording diagnoses and represent the most widely used coding standards. Common Object Request Broker Architecture (COBRA) is a new standard for handling objects used by software programs sharing a common environment. COBRA technology is only now beginning to appear in EMR systems. It is not essential that a system utilize this technology at present, but it should be considered a plus if it is included. MEDICIN and Read codes are vocabularies for recording the information that appears in the progress note. They offer hope to the idea of creating progress notes that are fully encoded, indexed, and searchable.

100. What is Infrastructure Standards? In order to be able to share and exchange information held in EHRs and between HER-Ss, agreement on a number of different types of standards is required. These standards include:

- HER Reference Model-the semantics of interfaces between the HER and other services in a comprehensive HER-S such as demographics, terminology, and security.
- Service interface models-the semantics of interfaces between the HER and other services in a comprehensive HER-S such as demographics, terminology, and security.
- Knowledge concept models- information models, data models, archetypes, and templates that define the structure of clinical and other domain-specific concepts and constraints on them.
- Terminologies/vocabularies-the language of health

- Data types – the semantics of data values assigned to a given data element.
- Identification-one or more attributes that uniquely identify the HER subject of care, healthcare providers, and origin of the information

101. What is Hardware Infrastructure? Among the first task of the project, plan would be to prepare the organization’s infrastructure for the HER system. This may entail purchasing and installing hardware, upgrading the network, and even making changes in the physical plant. For example, some organizations must do extensive cabling or even expand or rebuild their data center. Hardware purchasing and delivery also are two separate tasks.

102. What is Process Infrastructure? Process analysis and design or in-depth analysis and actual implementation of changes based on the specific vendor’s functionality. In a paper environment, clinical pathways for some clinicians were treated as general “guidance” rather than required processes. Reviewing what pathways exist, developing new pathways, and starting to use them more fully can be initiated in the paper environment prior to full E.H.R. implementation, although many clinicians find it difficult to fully implement them without full automation. Identifying and obtaining agreement on standards may be something to prepare in advance of the actual software installation. Certainly, policies, procedures, training materials, and user manuals can be developed or at least initiated in advance. Clinicians responsible for using clinical guidelines, templates, macros or smart text, structured data entry screens, and decision support rules need to be involved in reviewing, developing, and/or acquiring these components. The project manager should have a defined communication strategy. Some options include creating a newsletter that explains what is going on with the EHR implementation, putting a general status report on the organization’s internet, or even starting a list serve of frequently asked questions. Some one-on-one communication in the EHR also is important with patients.

103. What is People's Preparation? People preparation also may be as simple as early PC training for users who are unfamiliar with basic Windows functions or how to use a navigational device. This type of training has nothing to do with the EHRE application itself but can help these individuals become comfortable with learning how to use the HER when the HER training actually takes place. Moreover, early PC training can contribute to easing people’s minds about impending changes.

104. What is System Build? The actual system build is the process in which the software is installed and all the various dictionaries, table development, rules logic, data and code set mapping, file designs, screen layouts, data quality edits, report designs, repository structure, and technical controls and developed.

105. Why Several Technical Infrastructure Components are needed to influence the Clinician adoption and use of the E.H.R.? The ability to leverage technology will enhance the availability of the E.H.Rs at the point of care. Point of care includes the bedside, examination room, the patient’s home, and wherever the medical professional is located when trying to diagnose, evaluate, and that the patient. Access from fixed locations, such as a physician’s office, is usually not an issue; rather, it is mobility that is crucial to point-of-care E.H.R. access.

Wireless: A key element in mobile HER access is the widespread implementation of wireless networks. Most institutions think of HER access from the perspective of their own facilities. Virtually all new healthcare facilities include provisions for wireless computing

within the buildings. More forward-thinking institutions extend wireless access throughout their campus. However, to achieve unfettered HER access, the four walls of the institution cannot serve as the boundary. Public wireless networks are part of the HER-access solution.

Wireless networks for E.H.R. access require pervasive access to the underlying information systems, the use of devices associated with them, and the ability to access and update information unbounded by location or device. The primary challenges to the connectivity aspect of pervasive access are cost and security. Whether on an internal wireless network or over the public cellular data network, security must assure confidentiality of the data, as well as the availability of the wireless network and ability to reach the appropriate servers, while blocking unauthorized use of the wireless network.

106. What is Handheld/Tablet/Mobile Device? In most patient-care settings, the preferred device is a tablet-style computer that weighs 1-3 pounds in the dimensions of a clipboard stuffed with papers. For any mobile device of this nature, the challenges for use include loss rate, security, functionality, and form factor. Although portability, size, and weight are critical to the device's usability, these attributes also make the device subject to theft, damage, or loss. The replacement cycle for mobile devices is much shorter than for desktop workstations. A desktop workstation is replaced every 3 to 4 years, whereas the mobile device may have a life of only 1 to 2 years because of damage and other causes of loss. Replacement costs can represent a significant ongoing budget item.

107. What is the Human Machine Interface? Advances in the human-machine interface (HMI) are critical to clinician adoption and use of EHRs. A bad interface will result in an EHR access solution that does not contribute to effective and efficient patient care. Clinicians will resist using the E.H.R. if it remains more time-consuming than the paper chart and verbal orders.

108. What is Integration and Standardization? The use of standards in technology is an absolute requirement. Although there are many vendors with applications that use proprietary software, they all must use standards when communicating with other systems. The major data exchange standards in health care are HL7 which specifies application-level communication and DICOM (Digital Imaging and Communication in Medicine) which specified that standards for communicating images, HL7 and DICOM have made a significant difference in how systems communicate, but they have not been the perfect solution for systems integration. A joint effort between the Radiological Society of North America (RSNA) and HIMSS was formed called Integrating the Healthcare Enterprise (IHE)

109. What are Standard Identifiers: Standard identifiers for people, places, and roles are an essential prerequisite to sharing healthcare data across caregivers, care processes, and societal functions. Identifiers, at a minimum, are required for providers, payers, sites of care, and more controversially, patients. The current identifier systems, created largely for state and federal reimbursement purposes, have a number of strengths, but, because of their inherent proprietary weaknesses, must be overhauled to fully meet the needs of a universal E.H.R.

110. Why we need Infrastructure in IT Systems? Infrastructure needs may arise from the strategic planning process. An organization desiring to extend its IT systems to community physicians will need to ensure that it can deliver low-cost and secure network connections. Organizations placing significant emphasis on clinical information systems

must ensure very high reliability of their infrastructure; computerized provider order entry systems cannot go down.

In addition to initiatives designed to add specific components to the infrastructure- for example, new software to monitor network utilization-architecture strategies will focus on the addition or enhancement of broad infrastructure capabilities and characteristics. Capabilities are defined by completing this sentence: “We want our applications to be able to ...” We could complete that sentence with phrases such as “be accessed from home,” “have logic that guides clinical decisions making,” or “share a pool of consistently defined data.”

Characteristics refer to broad properties of the infrastructure, such as reliability agility, supportability, inerrability, and potency. An organization may be heading into the implementation of mission-critical systems and hence must ensure very high degrees of reliability in its applications and infrastructure. The organization may believe that it is in the middle of a large amount of environmental uncertainty and hence must place a premium on agility. The asset plans in these cases involved discussions and analyses that are intended to answer the questions: What steps do we need to take to significantly improve the reliability of our systems? Or, if we need to change course quickly, how do we ensure an agile IT response?

111. Why do we need Data? Data strategy conversations may originate with questions such as: We need to better understand the costs of our care. How do we improve the linkage between our clinical data and our financial data? Or, we have to develop a much quicker response to outbreaks of epidemics. How do we link into the city’s emergency rooms and quickly get data on chief complaints?

In general, strategies surrounding data focus on acquiring new types of data, defining the meaning of data, determining the organizational function responsible for maintaining that meaning and integrating existing sets of data and technologies used to manage, analyze, and report data.

112. Why we need IT Staff? IT staff is the analysts, programmers, and computer operators who, day in and day out, manage and advance information systems in an organization. Alignment discussions may highlight the need to add IT staff with specific skills, such as Web developers and clinical information system implementation staff. Organizations may decide that they need to explore outsourcing the IT function in an effort to improve IT performance or obtain difficult-to-find skills. The service orientation of the IT group may need to be improved. In general, the IT staff strategies focus on the acquisition of new skills, the organization of the IT staff, the sourcing of the IT staff, and the characteristics of the IT department-is, for example, innovative, service-orientated, and efficient.

113. What are the Values of Infrastructure? IT investments may be for infrastructure that enables other investments or applications to be implemented and deliver desired capabilities. Examples of infrastructure include a data communication network that enables the organization to implement applications to consolidate clinical laboratories, implement organization-wide collaboration tools, and share patient health data between providers. It is difficult to quantitatively assess the impact or value of infrastructure investments because they enable applications. Without those applications, infrastructure has no value. Hence infrastructure value is indirect and depends on application value. The allocation of infrastructure value across applications is complex. When millions of dollars are invested in a

data communication network, it may be difficult or impossible to determine how much of that investment should be allocated to the ability to create delivery system-wide EMRs. A good IT infrastructure is often determined by its agility, its potency, and its ability to facilitate the integration of applications. It is very difficult to assign return on investment numbers or any meaningful numerical value to most of these characteristics. What, for instance, is the value of being agile enough to speed up the time it takes to develop and enhance applications? Information system infrastructure is as hard to evaluate as other organizational infrastructure, such as having talented, educated staff. As with other infrastructure, evaluation is often instinctive and experientially based. In general, under-investing can severely limit the organization. Investment decisions involve choosing between alternatives that are assessed based on their ability to achieve agreed-upon goals. For example, if we wish to improve security, we might ask whether we should invest in network monitoring tools or enhanced virus protection. Which of these investments would enable us to make the most progress toward our goal? Our goals too may be difficult to quantify in terms of dollars. For example, our goals might be to move images across the system, to greatly increase information system availability, to have improved security, and to give your arms around rapid application development.

114. What are the Technical Barriers: Standards and Data Definitions? The healthcare information standards are not an easy task. Many of the standards issues in healthcare also exist of the general business community; other is specific to healthcare. One thing is clear standards are what enable different computer systems from different vendors and different health care organizations to share data. Healthcare organizations must also have a stable infrastructure to support clinical and administrative applications. The infrastructure must be reliable, fast, secure, and inexpensive. Failing to implement an adequate infrastructure can lead to poor system performance and insurmountable problems.

A plethora of information technology (IT) standards, including standards for messaging, content and coding, networks, electronic data interchange, and electronic health records, are important to healthcare information systems. Some of these standards compete with one another. The National Alliance for Health Information Technology (NAHIT), is an organization formed to compile health care. IT standards have identified 450 voluntary and mandated standards from 150 organizations (Bazzoli, 2004). It is important to recognize that many IT standards that do not specifically address healthcare also have a tremendous impact on healthcare information systems.

The Extensible Mark-up Language (XML), is emerging as a messaging standard not only in business-related Internet transactions but also in healthcare transactions and communications. In discussing system software we mentioned the emergence of Linux and in examining data management we commented on structured query language (SQL) and Open Database Connectivity (ODBC) as standards. These are but a few examples of general IT standards that have had a real impact on the development and use of healthcare information systems. The standards will be reviewed in three main categories: Classification vocabulary and terminology standards; Data interchange standards; and Health record content standards.

115. What are the needs of E.H.R. Implementation and Maintenance? Many factors influence the organizational structure of care delivery organizations (CDOs). These include the location (urban vs. rural), organizational mission, size, the complexity of services offered (primary, secondary, tertiary care), and availability of sufficient funds to support operations

and capital investments. CDOSs that are part of the university are even more complex, with added administrative staff required for their teaching and research mission.

An institution contemplating an EHR must have buy-in from the very top of the organization (including its board) and be willing to make information technology part of the organization's strategic plan. Resources for initial and ongoing IT investments must be committed – and the institution must have the patience to wait for the return on those investments.

EHR implementation is not easy, but it can transform your organization. Change on this scale creates the opportunity to rethink work processes, often resulting in more efficient operations. The EHR provides administrators and clinicians with a powerful tool for institutionalizing process improvements. In fact, we have found that EHR attracts clinicians and managers with a passion for quality improvement. Identify, hire, train, and promote these people. Their leadership will be one of the primary benefits of the EHR project and one of the critical factors for its ongoing success.

116. What is the needs assessment? Implementing an EHR requires that you conduct a needs assessment to identify and quantify measures of success, and determine the methods for maximizing ongoing benefit realization. A needs assessment can be defined as a systematic process to develop an accurate understanding of the strengths and weaknesses of a business process in terms of efficiency and quality. This understanding is used to set and prioritize goals, to develop a plan, and allocate resources. Needs Assessment is required to understand the department's priorities and lays out an organized approach for creating infrastructure and allocating resources. The following will give a better understanding:

- The goal of the proposed project
- The current process and workflow
- The gap between the goal of the project and the current process and workflow
- The capabilities and limitations of the software in addressing the gap
- The probable risks related to technical and operational
- The needs assessment should be completed prior to purchasing the EHR software.

Needs assessment is the foundation of a successful EHR implementation. It helps you reorganize to build consensus on goals for the project. It guides your choice of the software vendor. It guides your design-build choices. It makes the project's successes and remaining opportunities apparent; guiding the evolution of your organization's EHR and your use of it.

117. How are Vendor Selection and Contract Negotiation? The most important aspect is the selection of an EHR whether it is developed in-house or purchased from a vendor. If we are planning to buy from a vendor, then we have to focus on a selection of an appropriate vendor who will fulfill our requirements. Vendor selection is considered like selecting one spouse because of a long-term relationship. Once we selected the software/vendor, we will be associated for a fairly long time, difficult to separate. Thus, understanding the organization's business needs and culture is essential to selecting the right software and also the right vendor partner to keep the system functioning unhindered.

118. Why Goal Definition? Having set a clear goal as to what system that supports the entire spectrum of clinical care, particularly outpatient, emergency department, inpatient services etc. According to your prior planning, the implementation has to be carried out. Whatever planning had gone into the system to meet the goal has to be examined thoroughly and action

initiated accordingly. For example, whether planned to incorporate data from existing systems, the prioritized the needs such as providing access to existing clinical data (laboratory, pathology, radiology) using single or multiple repositories. Implementation of EHR computerized physician order entry in the ambulatory and inpatient floors, clinical documentation, and nursing documentation. The system complies with all the required standards to exchange data and is interoperable within and outside the institutions. To ensure that the selected vendor has all the functionality required.

119. Why define Requirements? Having defined the goals of the organization clearly, it becomes imperative to ensure that the organization has to have written process defining requirements such as issuing proposals, system selection, contracting, etc. The approach to E.H.R vendor selection should focus on assessing how the software could support your strategic goals and operational needs and its long-term maintenance. The other option could be reviewing the list of software modules provided by the vendor. The vendor's software list could have much more than what the institution needs, which has to be critically analyzed, and its ultimate outcome to be measured for feasibility. You have to select the one who shares your vision and mission and how automation could improve patient healthcare processes and that could demonstrate the success of its product in a 21st-century environment.

120. What Infrastructure is required? A solid foundation is a basic requirement for any structure that is meant to last. Any information system particularly for an E.H.R. requires a solid infrastructure that can support the software and its users. The infrastructure includes the supporting hardware, software, and management system required to run a particular application or suite of applications of E.H.R. This includes the data network (routers, wires, switches, and hubs), workstations (PCs, laptops, hand-held devices), servers (database, application, client, administration, etc) and telecommunications equipment and services. In most cases, it also includes the controlled environment in which many of these components operate.

The design and complexity of the infrastructure will depend on the size and complexity of your organization, as well as your ability to function without the EHR should be unavailable. For mid-sized and large organizations (i.e. those with hundreds or thousands of users) falling back on manual processes when the automated system is down is problematic at best, and, in the worst case, may compromise patient care.

121. Why the network? All systems that support more than a single user require a local area network (LAN) to allow different users to access the features, functions, and data in the EHR. LANs come in different configurations and can use different communication protocols. Currently, most organizations use transmission control protocol/internet protocol (TCP/IP) over Ethernet for their LAN environment. TCP/IP was originally developed for the Department of Defense and is the basis for communicating on the Internet.

Networks vary greatly in their complexity, depending on size and scope. The number of nodes, the amount of data being transferred and the number of users all contribute to network load, and to the demand for network capacity (bandwidth). If you are running multiple applications from different vendors, you will need more bandwidth. Most large and mid-size organizations have a network in place before implementing an EHR. If your organization includes multiple sites separated by more than a few thousand feet, or in cases where you cannot obtain the right-of-way necessary to install your own communication (e.g., cable or

fiber optics), you will need to consider a wide-area network (WAN) architecture. WAN services vary by geographic location and are usually purchased from a telecommunications company, such as AT&T, Pacific Bell, or Verizon. Capacity (bandwidth) for a WAN is generally much more expensive than comparable LAN capacity, so the cost can become the primary constraint to extending applications to widely separated practice.

122. Why Wide-Area Bandwidth? Telephone lines are leased from one or more local telephone companies. A typical connection speed must be higher than megabits per second, which provides adequate capacity for the E.H.R, E-mail, and other necessary systems, such as the lab information system, and browser-based applications. This connection speed is not sufficient for applications that require large bandwidth (such as print and file sharing that map a server's hard drive) or that transfer very large files, such as some PC maintenance operations. Traditional Picture Archiving and Communication Systems (PACS) used to store and move radiology images can easily overwhelm a T1, as can multiple internet surfers.

Newer network equipment with more sophisticated traffic prioritization algorithms is helping to address these issues. Routers and bandwidth-shaping tools can be used to prioritize traffic by type (e.g., HTTP, Tenet), source, destination (IP address), or simply by the amount of bandwidth being used. At the foundation of the HER, IT infrastructure has been raised to a new level of importance and organizational visibility. Reliable connectivity, well-managed desktops, solid backup procedures, and protection from those who might intentionally or unintentionally do harm to your organization's information systems must be primary areas of focus if you intend to deliver timely information around the clock.

If you are responsible for developing and maintaining the technical environment, be sure that you have allowed for adequate resources, training, and any outside help you may need. If you are outsourcing, be sure your vendor has all of the necessary personnel, systems, and safeguards in place to keep you up and running. No matter how well-designed and managed your systems and their underpinnings may be, there will be times when they fail. Clear downtime plans, policies, and procedures will enable you to continue to operate with a minimum of disruption to your business.

123. Why Workflow Assessment and Redesign? To implement an EHR effectively, operational leaders and implementation teams will need to understand your organization's current workflows. This understanding will guide your needs assessments for the implementation and provide the starting point for redesigning more efficient work processes. It is good to concentrate on designing EHR workflows that facilitate clinical best practices, rather than automating existing workflows, believing that this approach produces greater improvements in efficiency and quality. Other care delivery organizations (CDOs) focus on automating existing flow to simplify the implementation. The following suggestions were made for Workflow Assessment and Redesign:

- Consider workflow redesign as a potential benefit of E.H.R implementation
- Involve all the stakeholders early and often
- Pilot workflows: Begin at one or two initial sites with careful assessment and modification of workflows
- Do not underestimate the resources required
- Remember that paper can contribute to an optimal workflow, particularly if it does not need to be filed.

As the EHR software is upgraded, workflows must be reviewed. This review helps identify whether new software functions should be used and, secondarily, which workflows can be further improved. Workflow review and a redesign may also be prompted by the implementation of additional software products (other applications of the EHR suite or special purpose software) and by the implementation of new interfaces to other information systems.

124. Why Multidisciplinary Review: Two forums validate new EHR workflows that either need multidisciplinary review or that has the potential for CDO-wide effects. The first is a multidisciplinary feedback team comprised of physicians, nurses, ancillary staff, IT personnel, and professional reimbursement staff. The second team is comprised of operations leaders (including financial personnel) from throughout the organization. The teams review proposed workflows and communicate changes to their constituents. The feedback team meets weekly during the height of the implementation, decreasing to monthly post-implementation. At times, special purpose committees address specific workflow design needs.

125. Why staffing and managing implementation teams? There is a need to select staffing for implementation roll-out, including defining the skill sets you will need; identifying people who have or can develop these skills, and managing the multiple teams that will be needed for a large implementation.

126. What is Physician Role in E.H.R Implementation System? An experienced physician as a clinical leader can be named “Chairperson Medical Informatics” and can be paired with Chief Information Officer (CIO). Together, they can be made responsible for overall E.H.R. implementation. The CIO can oversee the technical aspects of the implementation (e.g., system stability and scalability). The physician can be responsible for clinical aspects such as the optimization of clinical workflows and care quality improvement. Implementation teams of carefully integrated specialists can function more effectively than smaller teams of generalists. Keeping these complex teams working effectively requires careful training, written responsibility agreements, and frequent formal and informal communication among team leaders.

127. Why Assess Usability in E.H.R Implementation System? EHRs capable of uniting disparate data from many sources are creating the potential for a revolution in the presentation of clinical information to users. The major benefit of the electronic health record is that for the problems of the patient, all relevant information can be collected from different sources; for example, from the chemistry lab, microbiology lab, and radiology department, and present the information in formats that are consistent with the needs of the intended users clinical, administrative and financial workers, and patient. Despite this inimitable opportunity, the usability of the EHR characteristically gets short for many reasons. “It’s really interesting to watch engineers and computer scientists go about designing a product. They argue and argue about how to do things, generally with a sincere desire to do the right thing for the user. But when it comes to assessing the tradeoffs between the user interface and internal resources in a product, they almost always tend to simplify their own lives. They will have to do the work. They try to make the internal machine architecture as simple as possible. Design teams really need vocal advocates for the people who will ultimately use the interface”.

Most often the EHR implementation teams usually do not include a member trained in usability engineering. Although, healthcare team members e.g. clinical and administrative are invaluable for assessing the usability of an EHR, rarely have skills in designing for usability. “The user is always right, but the user doesn’t know what he needs.” Jacob Nielsen, leading usability expert.

128. What is the User Interface in E.H.R. Implementation System? The user interface must use a clear design to provide easy access to complex information. A key element of clarity is designing the interface of the E.H.R. to reflect standard clinical workflows. Simplicity is at the heart of clarity. According to Jacob Nielsen, “Simplicity may be the single most important usability guideline. The less stuff you show users, the less they’ll have to scan and comprehend, and the better the odds that they’ll pick the correct option at any given stage. Duplicating features add significant overhead, to both the scanning process and the comprehension process”.

129. What is Layered Lists in E.H.R. Implementation System? A key advantage of electronic health records over paper is the ability of the EHR to provide users with simplified lists of options, with extended lists (often including hundreds of options) a single click away. A reasonable rule of thumb is to include the four to eight most frequently used selections in the concise list, listed in order of frequency. The remainder of the list should be alphabetized, for efficient searching. This produces lists that fit most users’ needs rapidly and require scrolling (which decreases reading speed only infrequently).

130. Whether EHR Behavior is Hard or Soft Stops in E.H.R. Implementation System? A hard stop is a software feature that prevents the user from going on until he performs a required action (e.g., entering a billing code before closing an office visit note). A soft stop requires only that the user acknowledge a recommendation, typically with a single mouse click, before going on. Some EHR developers and operations managers favor using hard stops for the clinicians to use the EHR as intended. This is, at least in part, because computer professionals and managers “, tend to place high value on efficiency and predictability, and to devalue the need for human discretion and innovation”.

131. Why Color in the E.H.R Implementation system? One of the primary challenges in displaying results is to streamline the tedious and error-prone task of identifying the relatively few abnormal results among the hundreds of results that are often available for a patient. The skillful use of color can make this task dramatically easier and less error-prone.

- i. The most visible color to most humans is “optic yellow”. This is the color of tennis balls, newer fire trucks, highway signs, and police cordon tape.
- ii. Blue (particularly a medium ‘Internet’ blue) is the color most easily distinguished from other colors
- iii. Black text on white background is the easiest to read.
- iv. Black text on an optic yellow background combines maximum visibility with high readability
- v. Humans are least sensitive to red. To make a design element recede into the background, color it red. (In highway signs and lights and Internet browsers, red means stop.)

132. Why Numbers in the E.H.R Implementation System? Numbers are most readable in tables. In one small study, tables were at least as quickly and accurately read as icons

(graphics), text, or pie charts by both physicians and nurses. “Tables usually outperform graphics in reporting on small data sets of 20 numbers or less. The special power of graphics comes in the display of large data sets”. For this reason, graphical displays of information are more likely to be useful in intensive-care units than in other settings. Better to display numbers in rows rather than columns. All but one of 120 feedback participants preferred repetitive test results (e.g., temperatures, and potassium readings) to be displayed in horizontal rows. Use round numbers to two significant digits. There is experimental evidence that any interruption reduces the capacity of short-term memory to two digits. The loss of accuracy due to rounding to two significant digits has been calculated to be 3.4%, well within acceptable limits for clinical decision-making. For example, clinical decision-making will not change if a TSH is reported as 2.4 rather than 2.37 or 2.43. For a few tests whose results are three-digit integers (e.g., serum sodium) the third digit is clinically relevant.

133. Why is the Usability Testing in the E.H.R Implementation System? Although a usability testing lag is ideal, you do not need one to refine the usability of your EHR system builds. Give as few as four typical users (both sophisticated and naïve) clinical tasks in scripted scenarios. Ask them to think out loud as they work through the tasks using the EHR. Four users are enough to identify 80% of interface problems. If feasible, representatives of the implementation team and the training team should observe this testing. An observation room with one-way glass is helpful but not required. Although creating a usable EHR requires careful attention, it is fundamentally a matter of learning from usable and unusable software interfaces and applying a fairly simple set of design and testing principles to your purchase and customization of the EHR.

134. Why the Training is important in E.H.R Implementation System? After devoting months to developing at new EHR and improved workflows, your organization will need a wide range of clinical and administrative workers to become skilled users of the EHR suite of applications. Although often under-budgeted, training is critical to achieving this goal. Effective training helps users achieve the efficiency and care quality benefits of an EHR. It improves morale and decreases employee turnover. Finally, it communicates your organization’s commitment to implementing an effective EHR.

135. Why Learning is important in E.H.R Implementation System? Learning is an important factor; hence, the staff expects training to be meaningful and relevant to their perceived needs. They often ask, “Why do I need to know this?” or “How will I use this?” Effective training must address these questions explicitly and persuasively. Simply showing the user how to use software features is not sufficient. Most learners are interested in getting their work done faster and easier with no loss of time and quality. They bring extensive knowledge and experience to the classroom and expect to relate this knowledge to their new learning. The learners measure their learning by competencies gained. Learners who already have EHR knowledge or skills or who can learn them on their own will rightly criticize a training system that does not allow them to demonstrate their competency and resume their work.

136. What are training needs in the E.H.R. implementation System? The first step in creating a training curriculum is to identify the training needs of the practice as the

implementation team begins planning the implementation. Participation in team meetings helps trainers to identify these needs. In addition, the team customizes several variables according to practice needs and preferences: Prepare schedule timings of the training program; classify caregivers into different teams to be trained; decide the appropriate date for training trainers and a core group of trainers by creating a training course. Pre-Go-Live Training can be given just in time, a week or two before go-live. Go-Live helps in new users rapid answers to their questions as they start to use the EHR in their work. It also gives trainers the opportunity to identify gaps in users' skills and provide focused training to close the gaps. Another important is that post-implementation training should include a review, scheduled about one month after go-live, provides the first formal assessment of the practice's ongoing needs, and initiates the post-implementation training program. Training clinicians to use an EHR is a complex task, which is critical to the success of the EHR project and the future of the CDO. It requires close attention to the learning characteristics and needs of clinicians; a deep understanding of the EHR and clinical workflows; and flexible methods and content.

137. What is Self-paced Learning in the E.H.R. Implementation system? Self-paced learning is effective for learners and efficient for both the learner and the organization. In order to make self-paced learning effective had to provide emergency trainer-led courses to get users trained in time to meet go-live schedules. And also need to install a computerized learning management system that promises to make self-paced learning more feasible.

138. What is the Definition of CDS? Clinical Decision Support is defined as any EHR-related process that gives a clinician patient-related healthcare information with the intent of making the clinician's decision-making more efficient and better informed. Providing high-quality clinical decision support is difficult but has enormous potential to improve healthcare efficiency and quality. It begins with an EHR designed to support it. It requires agreement regarding CDS opportunities. It demands a steady focus on simple, usable tools that meet the felt needs of physicians and that can be built into the current version of the EHR. It needs ongoing feedback from users regarding what actually supports and what subverts their clinical decision-making.

139. Why Clinical Decision Support is important in E.H.R. Implementation System? The EHR should be built to provide clinical decision support (CDS) as effectively as your car does. It is expected that most CDOs will soon conclude that accreditation, care quality, and reimbursement all require them to implement effective CDS in an EHR. This assumption is based on research literature that provides good evidence of the efficacy of small numbers of CDS interventions in research settings using non-commercial EHR's the assumption is also based on the anecdotal experience of thousands of EHR users, who find the prospect of practicing without CDS - for instance, allergy and drug-drug interaction checking - simply frightening. Finally, the assumption is based on the concerted movement of payers and regulators to require, and perhaps even pay for, provider and hospital performance that is not feasible without EHR-based CDS.

140. What is Translating Scope of Practice into Effective EHR Workflows in E.H.R. Implementation System? A methodology for developing EHR access profiles (that is, the level of E.H.R access, ability to enter information, ability to order tests and treatments, required co-signs, and audit functions) that will assure that all EHR users (including trainees

and students) have appropriate access to the EHR, in compliance with regulatory and licensing requirements, (i.e. scope of practice), while maximizing operational efficiency.

141. What is EHR Access in E.H.R. Implementation System? Defining user access to various functions of EHR-through Security class assignments in the system build—is a key component of the committee’s work. Every potential EHR user type (clinical and non-clinical) needs to have its rights and responsibilities spelled out. Implementing an EHRR will raise scores of questions such as the ones covered in this chapter. Creating a multidisciplinary committee to address than proactively and systematically will increase the efficiency, quality, and financial benefits of your project.

142. What is System Integration in E.H.R Implementation System? Integrating the EHR, that is, enabling the HER and other software applications to exchange data with each other without loss of meaning or accuracy, is one of the critical tasks of eh EHRR implementation and ongoing production support. Integrating the EHR begins with defining the component to be integrated. The EHR suite is a suite of applications that you purchase from the vendor and that share a common database. It may include scheduling, registration, outpatient EHR, inpatient EHR, Emergency Department EHR, ADT, pharmacy, laboratory billing, and other applications. Ancillary applications are external to the EHR suite, but send information to the suite’s database (for example, laboratory and pathology results) and may receive from it (e.g., patient demographics) information

143. What are Ancillary Applications in E.H.R. Implementation System? Integration of ancillary applications is essential to the success of the EHR’s usability and reliability. Before we implemented the EHR in any practice, we interfaced laboratory results and ancillary patient registration data to the EHR. Radiology results are added early on in the implementation. Considerable back-end work is necessary to make interfaced results from ancillary applications usable:

144. What is Technical Interface Consideration in E.H.R Implementation System? Decide what data should be stored in the E.H.R database and what should remain in ancillary applications. For example, PACS (digital radiology) images are too large to be stored in the E.H.R. Nor are they needed for real-time transactions (to enable clinical decision support).

- Document the specifications for each interface. This documentation should identify each data item and the aggregate data flow.
- Active continuing management of error logs is necessary to assure the integrity of the data in the EHRR.
- Develop a detailed testing scenario for every interface message type sent and received. For example,
 - Patient mergers, in which the data in duplicate patient records is merged into a single patient record.
 - Order and result messages, including different tests status indicators (e.g., “In Progress,” “Final,” “Edited,” “Cancelled”)
 - Registration messages, including checking a patient in using the scheduling application or making changes to the patient’s address.

145. What is integrating the EHR Suite in E.H.R. Implementation System? Attention must also be given to data integration among the applications that share a single EHR database (the EHR suite). Detailed analysis needs to confirm that shared data fields have the

same definition “Simplicity may be the single most important usability guideline. The less stuff you show users, the less they’ll have to scan and comprehend, and the better the odds that they’ll pick the correct option at any given stage. Duplicating features add significant overhead, to both the scanning process and the comprehension process”.

146. What is Layered Lists in the E.H.R. system? A key advantage of electronic medical records over paper is the ability of the EHR to provide users with simplified lists of options, with extended lists (often including hundreds of options) a single click away. A reasonable rule of thumb is to include the four to eight most frequently used selections in the concise list, listed in order of frequency. The remainder of the list should be alphabetized, for efficient searching. This produces lists that fit most users’ needs rapidly and require scrolling (which decreases reading speed only infrequently).

147. What is Integrating Application Testing in E.H.R. Implementation System? Integrated application testing ensures that new and existing software functions perform well together. The first stage is testing within each application. The second stage is testing the functions across all the applications of the EHR suite. A testing plan will help you identify testing dependencies and prerequisites. It will also help you coordinate the necessary resources from the involved project teams and provide a guide for estimating testing resource needs. Scenario-based testing ensures that recommended workflows are functional throughout the EHR suite.

148. What is Master File Management in E.H.R. Implementation System? Populating the EHR’s master files database files that contain static records used to identify, for example, EHR users, work centers, diagnoses, or appointment types appropriately enable the applications of the EHR suite to work together. One can create a master file team that can through the following steps to populate and maintain the files: The vendor identified the files and recommended a methodology for populating the. With the vendor’s assistance, the team identified the application in the HER suite (e.g., scheduling, patient care) that uses the table primarily and controls its definition along with other applications that use the table. The team established and maintained naming conventions that are used throughout the HER suite. The team determined which master files need to be updated and the methodologies and schedules for those updates. The team documents master file changes and communicates them to the implementation, training, and production support teams who communicate them to appropriate users.

149. What are EHR Application Upgrades in E.H.R. Implementation System? EHR application upgrade requires a structured approach because they affect other EHR applications. The upgrade team reviews the vendor’s upgrade documentation, analyzing functional enhancements and the configuration decisions that will need to be made. Any gap noticed in the documentation is brought to the notice of the vendor for completion. After the vendor completes the needed improvements, the team installs them in the test environment. Infrastructure components, such as the network's local servers and workstations, are monitored to ensure that the upgrade does not increase network traffic or create software registry incompatibilities. Integrating the applications that comprise the EHR application suite and the applications that interface with your EHR is critical to your initial and ongoing success. In many cases, major upgrades can create enough data integrity and usability problems to pose a serious threat to patient safety and workflow efficiency. A thorough, proactive approach to integrating data and functionality across applications will help you minimize the risk.

150. What is Phased Implementation in E.H.R. Implementation System? Phased implementation is the stepwise introduction of EHR functionality through a series of phases, each with its own analysis, training, and go-live schedule. A phased approach spreads the users' learning over time, producing several manageable peaks in cognitive load. This reduces training needs and the productivity loss typically associated with EHR implementation. The core principle of phased implementation is simply to gain with the least disruptive, most useful EHR functions, and then move to increasingly demanding functions as users increase their skills and see the benefits of an EHR. This approach enables to move to the use of full EHR with a minimum disruption of patient care or practice efficiency.

151. What is Technical Support in E.H.R. Implementation System? Phased implementation requires frequent changes in the system settings that determine access to the EHR functions (e.g., read-only, messaging, and order entry). Careful coordination assures that these changes are implemented for each user at the appropriate times. The analyst responsible for the system settings should work- on-site in each practice during the first few days of go-live so that they could provide immediate responses to requests for set-up changes.

152. What is Artificial Intelligence (AI)? In simple terms, Artificial intelligence is the simulation of human intelligence processes by machines, especially computer systems. Specific applications of AI include expert systems, natural language processing, speech recognition, and machine vision. At its simplest form, artificial intelligence is a **field, which combines computer science and robust datasets, to enable problem-solving**

153. What is Natural Language Processing (NLP)? In simple words, Natural language processing (NLP) is a machine learning technology that gives computers the ability to interpret, manipulate, and comprehend human language. **NLP drives computer programs that translate text from one of**

154. What is Machine Reading in NLP? Endowing machines with the capability to read, understand, reason, and answer questions about unstructured natural language text. Machine Learning is an application of AI that provides systems the ability to automatically learn and improve from experience without being explicitly programmed. Machine Learning can be used to help solve AI problems and to improve NLP by automating processes and delivering accurate responses.

155. What is Robotics? Robotics is a branch of engineering that involves the conception, design, manufacture, and operation of robots. The objective of the robotics field is to create intelligent machines that can assist humans in a variety of ways. They can handle lifting heavy loads, toxic substances, and repetitive tasks. This has helped companies to prevent many accidents, also saving time and money. In the medical field robots are used for intricate surgeries such as prostate cancer surgery.

156. What are the capabilities the E.H.R. should possess? Advances in Information and Communication Technologies have led to a shift in the way

patient information is captured, stored, and distributed. This technological shift has caused a gradual shift from paper-based health records to Electronic Health Records (EHR). EHR is a longitudinal record of patients. It contains information like patient history, diagnosis, laboratory results, treatment, etc., maintained in a digital form. The benefits of HER over paper-based health records are as follows: Accessible from anywhere at any time; Requires less physical storage space; Improves quality of patient records and is cost-effective; Provides summary reports of the patient’s clinical progress; Portable across healthcare organizations; Backups of the patient record can be maintained at lower costs; Can be utilized for research purposes.

157. What Standards for Electronic Health Records (EHR) in India? E.H.R. Standards was first introduced by the Ministry of Health and Family Welfare in September of 2013. The standards document contained recommendations for creating and maintaining a uniform system of EHRs by healthcare providers. The standards were further revised in December 2016.

158. What are the benefits of standardizing Electronic Health Records? The benefits are as follows: Promote interoperability; Promote Technical innovation; Encourage Vendors and stakeholders; Keep implementation costs low; Keep maintenance costs low; Implement best practices in the form of standardization. In 2018, the National Institution for Transforming India (NITI Aayog) released a visionary digital framework called “National Health Stack”, with the objective of creating digital health records for all citizens of India by the year 2022. With advancements in Information and Communication Technologies and Government initiatives, the transformation of health records to electronic health records is a critical initiative that will benefit patients, the general population, and the country. The development and implementation of EHRs in India are low, in comparison to developed nations, even though EHRs have tangible benefits. The adoption of EHRs, in India, is limited to private hospitals in the various metro cities.

159. What is HIMSS eight-stage EMR adoption model (EMRAM)? The Healthcare Information and Management Systems Society (HIMSS) created an eight-stage Electronic Medical Record Adoption Model (EMRAM). EMRAM provides a method to measure the level of adoption and utilization of electronic health records functions in an organization. The eight stages are described below:

	Description of the Stage
Stage 0	Stage 0 All Three Ancillaries (Laboratory, Pharmacy, And Radiology)

	Description of the Stage
Stage 1	Ancillaries - Laboratory, Pharmacy, And Radiology/ Cardiology Information Systems; PACS; Digital Non-DICOM Image Management
Stage 2	CDR; Internal Interoperability; Basic Security
Stage 3	Nursing And Allied Health Documentation; EMAR; Role-Based Security
Stage 4	CPOE With CDS; Nursing and Allied Health Documentation; Basic Business Continuity
Stage 5	Physician Documentation Using Structured Templates; Intrusion/ Device Protection
Stage 6	Technology Enabled Medication, Blood Products, And Human Milk Administration; Risk Reporting; Full CDS
Stage 7	Complete EHR; External HIE; Data Analytics, Governance, Disaster Recovery, Privacy and Security

This eight-stage model is a standardized method of determining the level of adoption among healthcare organizations. Healthcare organizations must strive to continuously upgrade their status vis a vis the EMRAM. The higher the level, the better the delivery of quality patient care, and additionally it opens the health records for secondary use cases.

160. What are the Impacts of Information Technology and Professional diversity? A number of factors influencing the healthcare environment have a direct impact on the HIM profession. They are already addressing many factors influencing the healthcare industry including changes in technology and its impact on the delivery of patient care, quality improvement, and other administrative functions. Other professionals like computer engineers, information technologists, and other allied health graduates have enormously joined in this field with their technical and computer skill. The HIM profession is the only profession that has as its core professional concern the quality of the data collected and maintaining in the course of delivering healthcare service.

161. What are Automated Data Collection and Telemedicine? Automated Chabot's the conventional software that is available in mobile apps or web applications. These conversational agents convert human speech to simulate a human conversation. With the help of a voice-based automated system, patients receive immediate assistance, especially for older patients. Transcribed

medical records refer to the transcription of physician and patient conversations and medical assessments. It helps in mapping the medical history of the patient for future visits and also acts as a reference point for the doctors. It helps the doctor to evaluate the present condition of the patient and suggest a suitable treatment.

162. What is the National Tele Consultation Service? The National Tele consultation Service of the Ministry of Health and Family Welfare is first of its kind online OPD service offered by a country's government to its citizens. National Tele consultation Service aims to provide healthcare services to patients in their homes. Safe & structured video-based clinical consultations between a doctor in a hospital and a patient in the confines of his home are being enabled.

163. What is Cloud Storage Computing? Cloud Storage is a mode of computer data storage in which digital data is stored on servers in off-site locations. The servers are maintained by a third-party provider who is responsible for hosting, managing, and securing data stored on its infrastructure. There are three main cloud storage types: object storage, file storage, and block storage. Some of the most popular cloud storage providers are Apple (iCloud), Amazon (Amazon Web Services), Dropbox, and Google.

164. What benefits of Applying Artificial Intelligence to Electronic Health Record Data? Though the adoption of Electronic Health Records is low in India Vis a Vis developed countries, the trend in developed countries is the adoption of EHRs has led to the collection of massive amounts of data. The amount of data is classified as Big Data and any kind of research that involves large amounts of data must utilize Big Data technologies. Research on this scale of data is challenging, and artificial intelligence (AI) is a solution. AI is being utilized extensively on imaging data, but its application on clinical data recorded in EHRs is starting to take off. For example, in Cardiology, AI is applied to EHR data, providing information regarding risk factors, drug interaction information or information relevant to patients undergoing catheterization. In Ophthalmology, it is being used to predict risks of cataract surgery complications and perform a risk assessment of diabetic retinopathy. AI applied to EHR data is also being used to detect rare diseases, which are left undiagnosed, due to the low case count, early detection using AI can improve outcomes for rare diseases. As the figure below shows, though aspirational, AI will gain a prominent role in healthcare by: Automating monotonous tasks; chatbots for automated responses to frequently asked questions; and Implement virtual healthcare assistants.

165. What is critical use of health records? Health records will play a critical role in the advancement of healthcare, by enabling AI and machine learning through the data that health records store.



Figure 13.2

Image Credit: Sparkle Russell-Puleri: <https://towardsdatascience.com/predicting-future-medical-diagnoses-with-rnns-using-fast-ai-api-from-scratch-ecf78aaf56a2>

The primary use of health records has always been critical to delivering quality healthcare. Digitization of health records into Electronic Health Records is contributing further to the enhancement of the delivery of quality healthcare and providing better user experiences for patients. The secondary uses of health records, especially Electronic Health Records, for research and application of artificial intelligence is now creating a ground-breaking impact in delivering innovation to healthcare in terms of early diagnosis, disease detection, pandemic outbreaks, and population health.

166. What is Digital Health? Digital Health as we know is the application of information and communications technology to provide digital health interventions to prevent disease and improve quality of life is not a new concept. When it comes to the face of global concerns, mainly related to aging, child illness and mortality, epidemics and pandemics, high costs, and the effects of poverty and other relevant social factors on access to healthcare, the digital health platforms, health systems, and related technology continue to grow in importance.

Situations, programs, commitments, and global alerts do develop the artificial intelligence and digital health-like innovative deployment of technologies that include and not limited to patient-facing tools, such as online symptom checkers, patient portals, monitoring tools, virtual clinical encounters, payers systems, coverage, and telehealth.

167. What are the Benefits of Digital Health? Digital health has the potential to prevent disease and lower healthcare costs while helping patients monitor and manage chronic conditions. Some applications in healthcare trusts like health maintenance help in preventive medicine, vaccinations, immunizations, travel medicine, etc., It can also tailor medicine for individual patients.

Healthcare providers also can benefit from advances in digital health. Digital tools give healthcare providers an extensive view of patient health by significantly increasing access to health data and giving patients greater control over their health.

Additionally, technologies such as smartphones, social, networks, and internet applications offer new ways for patients to monitor their health and have increased access to information. Digital Health rapid application development companies emerged with advanced features. In a different interpretation, digital health technologies enable patients and consumers to manage and track health and wellness-related activities more efficiently. While technologies such as virtual reality (VR) tools, wearable medical devices, and 5G help improve treatment for patients,

168. What are the Challenges of Digital Health? The digital transformation of healthcare has raised several challenges that affect patients, medical professionals, corporate standard designers, technology developers, policy and procedure guideline makers, clinical benchmark setters, protocol developers, and others. Due to the massive amounts of patient data collected from a variety of systems that store in the secured repositories and code data differently, data interoperability is an ongoing challenge, but operationally successful in different corners. Additional challenges relate to concerns focus mainly on technology and ethics, digital literacy among patients, resulting unequal access to healthcare, data storage, access, sharing and ownership, security, confidentiality, and privacy, errors by medical robots, etc.,

169. What are Digital Health and Business Intelligence (BI)? Business intelligence in healthcare combines clinical business analytics, clinical information, data mining, data visualization and imaging, data tools, and infrastructure, artificial intelligence, along with best practices. The intelligence elements and components are integrated, interfaced, and interpreted to help

healthcare organizations make more accurate data-driven decisions and render quality care.

170. What is Clinical Business Intelligence Architecture? Clinical Intelligence Architecture is usually designed for strategic decision-making. The major objective of BI is to enable interactive access to data both administrative and clinical, to enable manipulation of data, and to provide business managers and analysts the ability to conduct appropriate analysis of the historical and current data, which will reveal the conditions and performance for making better decisions, meet the required KPIs, maintain standards, focus on accreditations, meeting the set benchmarks, betterment of services and provide world-class healthcare to the scope.

171. What are Digital Health and Clinical Informatics? Health informatics, in other words, health information systems is the field of medical science and engineering that aims at emerging and developing different methods and technologies for the acquisition, processing of acquired data, and study of patient data, which can come from different sources and modalities, such as electronic health records, diagnostic test results, Imaging, etc., Deployment of well-designed and well-featured clinical informatics systems in healthcare facilities is not a replacement for health information in fact it is a digital form of health information that is a combination of data from many sources.

Digital health is the convergence of the digital and genetic science revolutions with health, healthcare, living, and society to enhance the efficacy of healthcare delivery and promote better health and well-being. It is a means to enable people in the scope to gain access to well-granulated and tailored treatments and care while reducing inefficiencies in the healthcare system. Clinical business intelligence is the interpreter of clinical data. Health informatics, on the other hand, is a component of digital that is responsible for the design, development, analysis, and utilization of patients and enterprise-wide data systems.

172. What is Central Processing Unit (CPU)? CPU includes Memory Unit; Control Unit; Arithmetic and Logical Unit.

173. What are the 5 Major Components of a Computer that you need to know? 5 major components of a computer are Motherboard; Central Processing Unit (CPU); Graphical Processing Unit (GPU); Random Access Memory (RAM) and Storage device.

174. What are the main Components of a Computer? These are the 5 major components of a computer that you need to know about: i. Motherboard; ii. Central Processing Unit (CPU); iii. Graphical Processing Unit (GPU); iv. Random Access Memory (RAM) v. Storage device.

175. What is Vision-ERA? Vision-ERA is an IDP (Intelligent Document Processing) platform. It provides automation capabilities for various document processing use cases such as patient on-boarding, patient records management, EMR (Electronic Medical Record) maintenance, medical billing, etc. Hospitals today still rely on paper-based records that are manually fed to the system. This work of feeding the data is either done by the doctor or the nurse which shouldn't be the case. It is because their primary responsibility is to provide care. However, Vision-ERA can easily extract data from the wide range of documents used during the treatment and feed them directly into the EHRs. Unlike humans, the output from VisionERA is not prone to error because of its inability to have a cognitive overload. Also, it can simultaneously validate the existing documents and make sure that your documents are error-free and correct. Using VisionERA would free up substantial time for the primary caregivers and empower them to serve the patient better. There's more to VisionERA. Want to learn about it, and see it live in action? Simply, click on the CTA below or click.

176. What is Health Information Management System (HIMS)? A properly functioning HIMS gets the right information into the right hands at the right time, enabling policymakers, managers, and individual service providers to make informed choices about everything from patient care to budgets.

HIMS basically functions on top of EHR and provides ways and means to record track and monitor, events and procedures, which forms the basis to improve quality. It also helps to reduce the cost of care provided and lends support to the administration in analysis and control. Administrators want a system that will capture all patient charges and work output whereas, clinicians want immediate access to the patient records, imaging, and diagnostics data. Clinician also wants timely alerts in case of any abnormality in diagnostic tests/procedure data. Hence a good HIMS must cater to the needs of both administrators and clinical staff.

XXIV Managerial Methods for Effective Organization	
S. No	Question
1	What are Managerial Methods related to an organization?
2	What is strong management?
3	Whether Leaders are made or born?
4	What is effective Leadership?
5	What are styles of Leadership?
6	What is the Ideal Leadership?
7	What are the principal causes of the downfall of Leaders?
8	How to exhibit the Trait of Leadership?
9	What characteristics nature of a strong Leader?
10	What type of leader can go from nowhere to anywhere?
11	What Qualities a Leader Should Have?
12	What are the potential causes for increasing health service expenditure?
13	What is the source of Economic Efficiency?
14	What is an increase in Efficiency?
15	What is Professional Success?
16	What are the Causes of Failures?
17	What is Scientific Evaluation?
18	What is the reason behind maintaining accurate records in the Healthcare Industry?
19	What are the benefits of having a good relationship?
20	How to Influence Your Interviewers?
21	How can I make an IMPACT in my working place?
22	What do you mean by training?
23	What do you mean by Training Development?
24	What are the different types of training?
25	What are the training methods?
26	How to motivate employees to do better?
27	How do leaders improve Morale?
28	How do you make an employee dynamic?
29	How to succeed in your professional career?
30	How to make an institution efficiently organized?
31	Brief Summary of Guiding Information: Prior to the commissioning of the hospital
32	32. HIM Department for a 500 bed hospital: Prior to the commissioning of the HIM Department

1. What are Managerial Methods related to an organization? Managerial methods must serve the objectives of an organization, taking into consideration hierarchical functionality and systems that are needed to reach the objectives: infrastructure, personnel, functional and operational styles, and support. The management process consists of planning and executing appropriate action under continuous, meticulous supervision to ensure the goals of the organization are accomplished. Success is measured by the resources spent, training,

effectiveness, and efficiency of the staff, to sustain to attain optimum qualitative results. The organization's emphasis should be on getting the best possible results for a reasonable cost, and also meeting global competitive standards. The organization needs efficient managers or experts to yield the required results.

2. What is strong management? Strong management applies the required managerial ingredients and ensures not only the expected results but adds many more benefits with innovative expertise. It is amazing what a good manager can accomplish. There are multifarious methods in this book that will enlighten the readers on how managerial methods executed by experts are an indispensable part of an organization or nation. The freedom an expert enjoys with the top management allows them to move forward by developing standards, policies and procedures and training operational personnel, making the nation or organization into a perfect standardization and rationalization of the working system of the entire country or organization.

3. Whether Leaders are made not born? Behavioral theories suggest that people can become leaders through the process of teaching, learning, and observation. Leadership is a set of skills that can be learned by training, perception, practice, and experience over a period of time. Leadership learning is not for a particular span of time, but rather a lifetime activity that immerses one in learning and acquiring traits needed to by a successful leader. These skills enable one to interact with other successful leaders such as celebrities, company CEOs, presidents, or chairmen belonging to politics, sports, the film industry, corporate builders, or even scientific research scholars.

Although leaders are not born but made, if we observe some genuine leaders, whether they are in business, politics, or sports, they do seem to be born with certain unique traits. Those traits push the majority of them to success. You can observe some successful celebrities with simple primitive status reaching a prominent position with remarkable success through the process of learning, teaching, observing, and following one's instincts.

4. What is Effective Leadership? Effective Leadership is the art of getting others to do what they want and being the first to initiate or go to and having a very clear vision and influence on others through their actions and their dedicated commitments. An effective leader facilitates such as materials and indicates the methods with the required kits for the work; liaisons between the departments and the personnel involved in the task; uses his influence to achieve goals despite the goals vary from one type of project or assignment to others that need to be completed according to schedule.

The effectiveness of any influence attempt must always be assessed with reference to a set task or goal. The effectiveness of leadership is a function of

the dynamic interrelationship initiation; for achieving the objective. The competence of a leader produces excellent results by synchronizing all concerned units or departments or specialists by standardizing and rationalizing the process of day-to-day work with quality of service. Leader arose sportsman spirit; with a positive attitude that will lead the team to a very high level of efficiency. Due to the fact, that the leader is concerned not only to meet the organizational needs and goals but also with the human resource involved in the field; their growth is not just promotions or increases in salary; but working out to enhance their knowledge, skills, and positive attitude with strictly time management. The leader not only improves his communication skills; but ensures that all his team is also equipped with that so the public service or higher authorities to get their needs much faster to accomplish the set goal. The leader makes the team clearly understand the vision, mission, and goal, and entire efforts are diverted towards achieving; in this process, the leader educates at every level; to keep track; like railway tracks that facilitate the trains to move fast with safety.

The leader stimulates the members with a diffuse excitement; to be productive oriented so the process is a non-stop movement that doesn't have time to think about anything else except the given task. His continuous presence with the working team; coupled with education on the task; need minimal supervision; produces excellent team spirit among the staff and takes a challenge to complete the task with high quality before the scheduled time. The leader is the one who keeps one-to-one relationships and is aware of each individual merits and demerits and always concerned to improve personal knowledge, skills, and welfare. The leader by practice and actions make aware the staff; of awards or appreciation and punishment in accordance with their performance; attitude and behavior towards the job. People who emerge as leaders make personal sacrifices for the group; work overtime, inconvenience themselves, tackle tasks with enthusiasm arose drive protects the staff, and take criticism as being strong decision maker; demonstrates at every level; their hard work, punctuality, discipline and ensures that those perform well will be recognized and awarded copiously by raising their status and self-esteem.

5. What are Styles of Leadership? Autocratic leaders believe in ordering and getting the work done not caring the individual growth or their woes while the democratic style of leadership values the individual traits and abilities of each subordinate: and participating style of leadership is a hybrid between autocratic and democratic styles- obviously much better than an autocratic.

The leader's honesty and credibility are tested by the staff with each individual with two ears and two eyes. If they found the leader is exploiting; then the outcome would be a disaster.

6. What is the Ideal Leadership? The Ideal is one who should be honest, committed, hard-working, impartial, and selfless in internal as well as external situations. They should be able to make swift decisions, be disciplined and efficient and ready to take risks. Certainly, they should be ambitious but not overambitious, confident but not overconfident. They will take work seriously, be consistent and focused, and understand the needs of others. A leader should first build up strength in the field they are in, before expanding further. A leader must take any failure or threat, big or small, as a new lesson and opportunity, must be aware and always conscious of the possibilities, and never consider competitors to be weak. A leader's set vision or objective is clear and he or she sticks to that, maintaining stability in all situations.

7. What are the principal causes for the downfall of Leaders? Those are over-ambition, overconfidence, development of ego or arrogance, considering opponents weak, losing equilibrium, diversion from original objectives, forgetting the customers' needs, building up personal own regime, and not realizing their potential. A lack of contentment can drive one to make poor choices and destroy years of reputation and personal esteem.

8. How to exhibit the Trait of Leadership? Any person who has the instinct to achieve with minimal knowledge and skills blindly dedicates his life to what proved to be a monumental task. Through learning, teaching, and observing, he makes a huge contribution to the field of hospital management and helped save many patients' lives. When a person of any stature works with zeal to fill the needs of an organization, the authorities recognize this and elevate the person's stature in many ways; it could be elevating the professional status, or introducing them to very high-level entities that gradually inspire and motivate them to continue climbing the ladder. The stepping stones gradually lead to higher and higher positions with greater responsibilities. The challenge becomes routine and necessary for the individual and proves his or her worth as they (knowingly or unknowingly) exhibit the traits of a leader.

9. What characteristics nature of a strong leader? It is in the nature of a strong leader to recognize another, and also to uplift and enable those who are working with skill and ability toward the good of an organization by giving them full freedom to carry on the given tasks. The expert is also conscious of global competition and the existence of many other experts across the world, and he or she needs to stay up to date with the latest knowledge and skills. A leader must continue to learn by acquiring more and more advanced knowledge and skills and by sharing these wherever appropriate, whether by teaching locally or by participating and presenting papers in international conferences held all over the world. This equips one with mastery over the field, and the employer always looks for the best employee who can deliver the goods within

the expected time and resources, and to the needed international standards. The achievements are visible and recognition spreads like wildfire. Awards may follow further testimony to expertise that fetches more and better jobs. Eventually, the expert needn't give any interviews, as they will be sought on reputation and past accomplishments alone.

10. What type of leader can go from nowhere to anywhere?, Leadership is a tangible expression of Mastery over fear, Self-confidence, Initiative, Integrity, Enthusiasm, Creativity, Skillful Communicating, Generating innovation, and execution to find the expected results. Brings out new ideas, makes quick decisions, vivid solutions to problems, and is self-sacrifice to achieve the goals of the organization to which he or she belongs. Readiness to serve, educate the needy, the ability to cooperate with diverse characters to accomplish the set task completed. Styles of leadership differ from person to person and similarly, the style of work varies from organization to organization. Results that are achieved through knowledge by applying the standards, policies, processes, techniques, and methods make the difference. The objective of any organization or hospital or business setup needs leaders who could bring the best quality of service or profit in terms of money to accomplish their goals. Since the Hospitals dealing with patient care; need leaders who are capable of managing the hospitals efficiently, and optimally to provide swift, safe, best quality care at a competitive cost.

11. What Qualities a Leader Should Have? As per David Hakala, the definition of leadership is “One's ability to get others to willingly follow the top ten leadership qualities”.

- (i). **Vision:**--Dream, hallucination, apparition, idea, mental picture, image, visualization, revelation.
- (ii). **Integrity:**--Honesty, Truth, truthfulness, honor, veracity, reliability, and uprightness.
- (iii). **Dedication:**--devotion, commitment, enthusiasm, keenness, perseverance, allegiance, ardor, loyalty.
- (iv). **Magnanimity:**--nobility, generosity of spirit, high-mindedness, fairness.
- (v). **Humility:**--humbleness, modesty, unassuming nature, meekness.
- (vi). **Openness:**--Honesty, Directness, Frankness, Sincerity, Candidness, Ingenuousness
- (vii). **Creativity:**--originality, imagination, Inspiration, Ingenuity, Innovativeness, resourcefulness.
- (viii). **Fairness:**--justice, equality, even-handedness, Sprite
- (ix). **Assertiveness:**--Not aggressiveness, Boldness, brazenness, forcefulness, insolence

(x). **Sense of Humor**

12. What are the potential causes for increasing health service expenditure? The following are some of the potential causes for increasing health service expenditure: It is a known fact that more than two-thirds of the total expenditure in any health institution is incurred on manpower. There is a major scope to reduce the cost if it is carefully viewed. Other factors account for e.g., indiscriminate ordering for costly and routine laboratory, x-ray, and other investigations for diagnosis purposes. But at the same time, most of the reports neither reach the doctor, nor the patient or his record. Excessive prescription of drugs also adds to expenditure. Costly equipment is procured by the departments without using them optimally or lying idle for years. And also purchase of excessive equipment or stores without verifying its availability within the institution. Poor maintenance of equipment, wastage of papers, and excess use of fax communication besides postal letters, supplies, efforts, and duplication of work also contribute to the escalating cost. Lack of cooperation and coordination among the departments and staff, under-utilization of services, improper allocation, and utilization of space, building facilities, ego, and status consciousness of some senior department heads accelerate the health service expenditure. If proper care is not taken the medical record service which is supposed to help reduce the cost and increase efficiency in health service will instead add to the problems of excess expenditure by introducing too many forms which not only increases the size and bulk of records and confusion but also needs more cost, space, equipment, and people, experiments and expansion of departments internally and externally without justification will increase the administrative cost. The application of computers is considered to be a boon to health care delivery and has not only brought with it unprecedented capabilities such as storage, prompt delivery of information, and saving space but also added fantastically cost to health services, if this technology is used optimally for the purpose for which it was acquired it will be extremely cost-effective.

The author conducted research in a renowned postgraduate medical education and research institute in the year 1978 and found the expenditure on a hospital of 750 beds had spent Rs. 17,509,528 for patient care out of total expenditure, 75.5 percent was incurred on personnel, while 13.27 percent was spent for drugs and surgical dressings, 4.45 percent on machinery and equipment, and 4.18 percent on diet, and 2.6 percent were incurred on miscellaneous expenses including chemicals, X-rays and linens. Out of the total expenditure of the hospital, 2.78 percent was spent on the medical record department which had a comprehensive unified medical record system, from its inception, i.e. 1966, with the concept of one patient, one number, and one record, fully automated, well supported by 78 trained staff and a strong and efficient administration. The analysis of the medical records expenditure was 69.8 on personnel, equipment

15.4 percent, medical record Form 14.2 percent, and other contingencies 0.6 percent.

13. What is the source of Economic Efficiency? Economic efficiency in health care can be defined as the provision of necessary care of good quality at minimum cost. Thus, the immediate aim is to move toward a more economical balance of services and to eliminate ineffective, excessive, and unnecessary medical procedures. Both demand and supply play a part in generating extra costs of healthcare. Wherever, patients are not responsible for payment for their treatment and insurance or another organization pays, these factors contribute to an excessive and unbalanced supply of services that is a major cause of increased costs and inefficiency. Economic inefficiency in the supply of health care can take several forms. One is the excessive use of hospital beds indented for the care of acute illness when quality care could be provided elsewhere at a lower cost. Sometimes beds are filled to get the budget. Moreover, the higher the occupancy rate, the greater the funding for new equipment and that becomes a source of enhancing the hospital's prestige. Excessive and unnecessary medical procedures also constitute a form of economic inefficiency: doctor-initiated repeated visits, the excessive prescribing of drugs, the prescribing of costly drugs when less expensive equivalents are available, the excessive use of laboratory and X-ray services, and unnecessary surgery.

14. What is an Increase in Efficiency? The logical way to increase efficiency is to plan for a correct balance of available services and trained manpower necessary to meet medical needs, geographically distributed on a rational and equitable basis. By encouraging cost awareness, some countries are trying to make doctors aware of more economical prescription practices, informing them of the differences in the cost of equivalent or near-equivalent drugs that can be substituted for more expensive ones they may be using. In some provinces of Canada and the USA, pharmacists are empowered to substitute cheaper "equivalents" unless the doctor has specifically forbidden substitution on the prescription. *The* common practice of making specialist care accessible only on referral from another doctor has the potential of reducing the costs of health care.

Health records may contain information from single components of care for example a physician's clinic, emergency department, and ICU, or they can contain data from an integrated hospital. Health records were introduced largely to improve healthcare quality and to capture billing data, but increasingly, nowadays are being used in clinical studies, to facilitate patient recruitment for the study, or they could be utilized to conduct a health record-based observational study. The applications for an observational study can be:

i. Health utilization; ii. Safety Surveillance; iii. Drug utilization; iv. Risk factors; v. Epidemiology.

15. What is Professional Success? One has to realize; his career goals, and their importance, and to learn to develop professionally. We are today in a very competitive world; any new related learning is an investment in your career bank; which will fetch you higher positions and enhanced salaries and great self-esteem. Professional growth focuses on gaining new knowledge, experience; and skills to be positive and understand the current situation and adjust and adapt to the organizational need of the profession; keep the Ego aside, and be humble to accomplish our goals. Most HIM need to execute the “Earning and Learning” process alive throughout their career. Acquired knowledge and skills will give you tremendous self-confidence that makes you accept more responsibilities which is a vital key to getting closer to policy and decision-makers. One has to take boldly to lead if required; pursue the role required for education; to gain the essential knowledge and the skills to take up a large project with more staff and budget to supervise and prove your management effectiveness.

16. What are the Causes of Failures? Common reasons for failure include poor planning, preparation, time management, and understanding of the concepts. Distractions, anxiety, and health issues can also lead to failure. Failures are part and parcel of life. It should be used constructively to prepare better for the exam. But no matter the specifics or scope, all failures are the result of three root causes: lack of strategy, lack of effort, and lack of courage. Lack of communication, leadership, vision, trust, business goals, education, decision, persistence, enthusiasm, or negligence, negative personality, over ambition or cautious, wrong association, **ill-discipline, not learning from past mistakes, poor reporting channels,**

17. What is Scientific Evaluation? Maintaining the medical records of a patient helps in the scientific progression of finding a cure or better care for an on-going ailment. The treatments provided are recorded and therefore provide much help during the research.

18. What is the reason behind maintaining accurate records in the Healthcare Industry? There are many reasons; however, most importantly two reasons why medical records are maintained within a healthcare industry. The first is Scientific Evaluation: Maintaining the medical records of a patient helps in the scientific progression of finding a cure or better care

for an on-going ailment. The treatments provided are recorded and therefore provide much help during the research. Also, it helps the government strategize better considering the overall well-being of its citizens in terms of health secondly Legal Binding: In case of any accusation towards the hospital or the treating doctor,

having proper medical records helps in case of a court trial. A medical record establishes the treatment provided by the treating doctor helping the hospitals justify that they provided the right treatment.

19. What are the benefits of having a good relationship? Proven links include lower rates of anxiety and depression, higher self-esteem, greater empathy, and more trusting and cooperative relationships. Strong, healthy relationships can also help to strengthen your immune system, help you recover from disease, and may even lengthen your life. Relationships are a cornerstone of happiness and living a full life. This is because they come with a wide array of rewards. Relationships provide us with friends and family to share our lives with and people who can help us out in tough times. They tend to bring us plenty of laughs and as a result lots of joy. Develop attachment. Do you often yearn for a fulfilling relationship where you each support each other deeply and care for each other infinitely? Shared Memories; Reduced Stress; Longevity.; Improved Health and Happiness.

20. How to influence Your Interviewers? Here are a few basic tips on how to influence your interviewer: Never go to an interview with negative or positive hopes. Many have experienced a feeling taking the outcome of an interview is everything; if they get the job all their problems will be solved; if they don't get they are doomed and life has come to an end. If they go with this attitude; they lost the half battle before going to the interview itself. You got an opportunity to prove your professional worth and expertise. You focus on that and go as you are going to demonstrate well and prove your worth; if you succeed; celebrate success; but if you don't get; think that job was not for your calibre, something better is going to come to you. If you apply this type of attitude; your chances of getting a better job are assured.

Prior to going to the interview; you understand clearly the Vision, Mission, and Goals of the institution and the needs of your job; why getting the job is more important for you. Try to observe the following: Wear clothes that are professional and appropriate for the job you're interviewing for. Listen calmly, but speak confidently; convey their needs for recruiting; Inform them how you are most suitable to take up the job and how are you going to fulfil the need. This matter communicates clearly your ideas. Be positive, ask questions

wherever a question was not clear or the interviewers are deviating from the subject. You think that you, not satisfied interviewers, but show them your positive attitude and thank them for inviting you; convey before leaving that I thought I would contribute my knowledge and skills to do my best to help the organization; however no problem; may be other institution might prefer my services. Thank you so much for inviting me and had an excellent opportunity meeting you all.

21. How can I make an IMPACT in my working place? People who observe time management, have passion for their work; and practice, ethics, discipline, punctuality; positive nature to contribute to the organization are always created excellent impacts on top officials and they are always close to them as they trust and consider them as their assets. Be proactive and originate new concepts. Leave your comfort zone, generate more possibilities, learn a lot, and inspire others. Initiate new ideas. Regularly update the work to higher authorities; be **positive** and take challenging jobs and perform with utmost dedication. You should always be cautious of time schedule and complete it a little earlier than the date and time. This will steadily attract the attention of others. A person who produces better results is in a mode of stress-free; increased productivity, having built up trust as a work performer; taskmaster to get the job done earlier than scheduled time with better quality and contained cost.

Pay attention always to the needs of the institution and their expectations; active listening skills can improve workplace performance. It helps reduce misunderstandings, demonstrates a caring attitude, and tasks can usually **be a leader and** lead by serving others and you will stand out. Effective leadership will help grow confidence in your team, improve business operations and increase emotional intelligence. Those who find solutions and relay them in a constructive way also earn the respect of their peers.

Another important ingredient is building a Network that connects with others inside and outside of your office. Building long-term relationships has been shown to be vital to career growth. You become an excellent fact-finder and identifier of problems and provide appropriate solutions. You are not only a forward-thinking person with a full of Vision for the next 10 to 20 years and propose required infrastructure, and training but to have better production with less cost. Well-trained employees show both quantity and quality performance. There is less wastage of time, money, and resources if employees are properly trained in their specialties. Continuous evaluation of performance; and the outcome will motivate to do better and becomes a

mechanism of “check-and-balance” of the management to be on the right track throughout on how to outshine and succeed in the institution's goal.

22. What do you mean by training? Training is teaching, or developing in oneself or others, any skills and knowledge, or fitness that relate to specific useful competencies. Training has specific goals of improving one's capability, capacity, productivity, and performance.

23. What do you mean by Training and Development? It is a learning process in which employees get an opportunity to develop a skill, competency, and knowledge as per the job. Training and development initiatives are educational activities within an organization that is designed to improve the job performance of an individual or group. These programs typically involve advancing a worker's knowledge and skill sets and instilling greater motivation to enhance job performance.

24. What are the different types of training? There are many; however the following; Technical or Technology Training; Depending on the type of job; technical training will be required. Quality Training; Skills Training; Soft-Skills Training; Professional Training and Legal Training; Team Training; Managerial Training and Safety Training.

25. What are the training methods? The types of Training Methods are: Case Studies; Coaching; eLearning; Instructor-Led Training; Interactive Training; On-the-Job Training and Video-Based Training.

26. How to motivate the employees to do better? There are various ways to motivate; some of the proven methods for boosting employee morale are: Promoting work-life balance among employees; Investing in trust building; Go beyond “My door is always open” for taking suggestions for improving the organizational methods and procedures; and growth of employee’s caliber so that they too grow along with the organization. The organization considers any investment in employees especially in their personal talent building to be a great asset to the institution. And willingly support employee-led initiatives that are in the best interest of the organization's overall growth and respect each and everyone from top executive to the bottom level. The organization realizes that all are wheels of a moving highly valued vehicle.

27. How do leaders improve morale? Giving your employees hope and hunger for achieving their professional goals is one of the best ways for leaders to improve morale. Compare an employee that's feeling ambitious and hopeful and an employee experiencing a sense of being stymied and discouraged. Encourage on-going one-on-ones; Give employees the tools to ask for feedback; Train your

managers to become better coaches; Help your people develop—both personally and professionally; Show employees how much you appreciate them; Don't forget to have fun.

28. How do you make an employee dynamic? The following are a few important tips: Get to know them; Provide them with the tools for success; Let them know how the company is doing; Allow them to grow; Support them and the authority you've granted; Recognize your team and their hard work; Encourage teamwork among employees; Find employees that care about the customer.

29. How to succeed in your professional career? Tips to Set You Up for Success at Work: Choose Your Job Wisely; Be a Lifelong Learner; Understand Your Job Expectations; Be a Team Player; Take Ownership of Everything You Do; Develop Leadership Skills; Keep a Positive Attitude; Maintain Work-Life Balance. Manage time efficiently; Accept challenges; find solutions; make the impossible possible with a passion to outshine and succeed in a profession

30. How to make an institution efficiently organized? No institution can be efficiently organized and managed unless one makes a critical analysis of organizational needs and takes appropriate action to develop the way one wishes to be. It is in fact more true with hospital organization, The new hospital starts as a simple and small organization and within a span of a few years, it evolves into a complex body governed by precise laws and regulations, especially as regards finances, facilities, and organization.

In order to maintain any organization, especially the hospital administration efficiently, it is necessary to develop management tools that would reflect the true operation of the hospital and enable resources (personnel, equipment, and buildings) to be fully utilized and adapted to the needs of the population served. These indicators of true hospital operation would then serve as a basis for determining hospital activity at any moment of time, in relation to the number and characteristics of the patients as well as for evaluating hospital activity in terms of the progress made towards good utilization of resources. A record of activities, related to the individual patient, would provide a valid basis for establishing a relationship with the morbidity observed in the hospital and would be the first step towards an evaluation of services rendered by the hospital, or its impact on the demand for care in its own particular area. Thus in the aim of establishing a hospital is not only to adjust supply to demand in the field of healthcare but to effectively coordinate services to render efficient quality care to patients. The author stressed too much on health information collection and interpretation because of valid reasons. Correct and timely administrative and clinical information which is a barometer of hospital

efficiency could indicate whether the quality is balanced with expenditure and facilities provided or whether leading to inefficiency and financial crisis.

31. Brief Summary of Guiding Information: Prior to the commissioning of the hospital; the following to ensure that

- Effective Communication and patient transport system is in place
- Outpatient clinics, wards, A/E Day-care, etc. all equipped well
- Outpatient clinics, wards, A/E and Day-Care wards are properly numbered
- Oriented medical, nursing, and paramedics on hospital policies and procedures
- Proper patient flow in the OP; A/E, Wards, and Day-care
- No patient registered was sent home without being seen by the healthcare providers
- Proper Patient triage systems must be applied in all, especially in the A/E Dept.
- An appointment system is observed for effective patient care
- The patient gets his/her healthcare services promptly from the right persons
- Each specialty clinic must be attended by at least a minimum accepted medical staff
- All investigation depts. must be ever ready to deal with the patients with utmost care
- Delays to patients from scheduled time must be explained the reasons
- All the staff must be tidy, polite to patients and their attendants
- Patients/attendants are trained on the hospital system and procedures
- Engage the Patient waiting area with health education /entertainment programs
- Patients are waiting in the right clinics; or the right place for their issues.

32. HIM Department for a 500 bed hospital: Prior to the commissioning of the HIM Department, the following suggestions are made for the HIM Department:

The HOD oversees the functions of the HIM Department to be performed effectively and efficiently. The HOD must be ably assisted by 4 Assistant HIM Managers. The four are made responsible with one in charge of Outpatient clinics. One in-charge made for Inpatient records–manual and electronics’. One in-charge made for A/E and Day-Care and one for HIM management including HR functions; and public relations. The HOD must be thorough with the hospital rules and regulations and periodically impart the HIM systems and

procedures to all the healthcare providers and every newly joined healthcare provider must prior to starting the work have the orientation from the HIM department. HOD must participate in most of the policy and decision-making meetings to help with his updated Data for the efficient functioning of the institution. He should play a vital role as the “Medical Record is the Mother of Information; it can Make or Break the Healthcare institution”. Medical Records is a ‘Mirror’ that reflects what is done; and if not recorded, means not done. Therefore, the record must be accurate, timely, relevant, and complete. Healthcare Data is a barometer of the institution, hence the data collected must be accurate, timely, relevant, and complete to serve in continued patient care; medical education, research, medical-legal, insurance, reimbursement, public health, and national and international health agencies. To achieve the above the following methods are to be adopted to ensure that-

- 4 Assistant MROs are performing their duties and responsibilities effectively
- All the staff is trained well in their respective jobs
- Periodic education is imparted to all the healthcare providers on HIM systems and procedures
- Periodic orientation to the HIM department staff by their respective AMR Officer
- Teach the staff pleasing behaviour with all especially the sick injured patients/attendants
- The Records Department is the “Window” of the hospital and functions efficiently
- Discharged records are properly assembled, and completed in all aspects
- The Records are to be coded for all the diseases and for surgical procedures accurately, either by manually or by computer, as per the latest WHO ICD and procedures.
- Prompt classification of diseases indicates if any new disease leads to an epidemic or endemic
- The data collected on morbidity and mortality is accurate and complete for various purposes
- Regular monitoring of the records; manual/digital for their prompt completion by care providers

XXV**70 Dynamic Question and Answers for Basic Health Sciences**

This chapter has 70 Dynamic Quiz Questions with answers at the end of the questions. This contains vital and all HIM professionals should know as they play a vital role in the patient care process and the HIM should be aware of the fundamentals of each service or procedures to succeed in the profession.

Q. No.	Quiz Question bank for HIM and Health Informatic Professionals
1	What is Clinical Pathology
2	What is the Classification of Disease
3	What is the Classification of Lesions?
4	What are the classifications of tumours?
5	What are the classifications of tumours?
6	What is Microbiology?
7	What are the 5 methods of disease transmission?
8	What is Immunodiagnostics?
9	What is Immunological Diagnostic Techniques of Medical Viruses?
10	What are the principles of diagnosis?
11	What are the principles of bacteria identification?
12	What are Infectious diseases:
13	What are the principles of diagnostics of infectious diseases
14	What are the diagnostic techniques for the identification of parasitic infection
15	Diagnosis of fungal infection:
16	What is the principle of laboratory diagnosis of viral disease?
17	What is biochemistry in simple words?
18	What is sugar?
19	What is Protein?
20	What is a Protein-bound iodine test?
21	What binds iodine?
22	What is Lipids?
23	What is Lipid metabolism?
24	What is the glucose tolerance test?
25	What is radioactive iodine uptake (RAIU)?
26	What is the principle of radioimmunoassay?
27	What is the meaning of vitamin deficiency?
28	What is Vitamin B12?
29	What are deficiency diseases of vitamins?
30	What are normal and abnormal constituents of Urine?
31	What is the normal constituent of urine?
32	What is Haematology?
33	What is Serology?
34	What is a serology test for?
35	What is Blood Transfusion?
36	What is Radiology?
37	What is Radiation therapy?
38	What do you do during radiation treatment?
39	What is Chemotherapy?

40	What exactly does chemotherapy do?
41	What is the procedure for an angiogram
42	What is angioplasty?
43	What are Stents?
44	What is Open heart bypass surgery?
45	What is the difference between open heart surgery and bypass surgery?
46	What is Open Heart Surgery?
47	What is a Bypass Surgery?
48	What is Pharmacology?
49	What is Pharmacy?
50	Who is Pharmacist?
51	What is Psychiatry?
52	What is Psychology?
53	What is Behavioural Neuroscience?
54	What is Clinical Psychology?
55	Who is Child Psychologist?
56	What cardiac or heart failure, respiratory failure or peripheral failue are considered as cause of death?
57	What is the Definition of the Cause of Death?
58	What is the Underlying Cause of Death?
59	Why it is important training of medical staff and nursing staff on writing cause of death?
60	What is Medical Auditing?
61	What is Patient Care Evaluation?
62	What period a discharged patient record can be kept by the ward?
63	What is the confidentiality of patient records?
64	What is Security of Medical Records?
65	Why MRD has to make monthly and yearly statistical reports?
66	Role of MRO in the hospital:
67	Observing Dr. Mogli's Oath of Ten AUSPICIOUS Commandments by MRO:
68	What is the Definition of MLC
69	What is the Hospital disaster management?
70	What are the Top 10 Killer Death Diseases in India?

1. What is Clinical Pathology: Clinical pathology covers many lab functions. It is concerned with disease diagnosis, treatment, and prevention. Clinical pathologists are healthcare providers with special training. They often direct all the special divisions of the laboratory. (e.g., Blood, other body fluids, and Urine is collected as a specimen for many tests)

2. What is the Classification of Disease: A classification of diseases may be defined as a system of categories to which morbid entities are assigned according to some established criteria. There are many possible choices for these criteria.

3. What is the Classification of Lesions? According to Andreasen's classification, the lesions are classified into six clinical types: reticular, erosive, atrophic, plaque, popular, and bullous. And they classify three different classes of lesions called melanoma, seborrheic keratosis, and benign or nevus.

4. What are the classifications of tumours? Two main classifications: germinomatous or seminomatous germ-cell tumors (seminoma, germinoma) and non-germinomatous or non-seminomatous germ-cell tumors (choriocarcinoma, teratoma, gonadoblastoma).

5. What is the Classification of a tumour? Tumors can be classified as benign or malignant. Benign tumors are those that stay in their primary location without invading other sites of the body. They do not spread to local structures or to distant parts of the body. Benign tumors tend to grow slowly and have distinct borders. A benign tumor can become quite large, but it will not invade nearby tissue or spread to other parts of your body. A malignant tumor has irregular borders and grows faster than a benign tumor. A malignant tumor can also spread to other parts of your body.

6. What is Microbiology? Is the study of the biology of microscopic organisms - viruses, bacteria, algae, fungi, slime molds, and protozoa that are too small to be visible to the naked eye. This includes bacteria, archaea, viruses, fungi, prions, microbes, and the human body · Fungi · Bacteria · Viruses. The methods used to study and manipulate these minute and mostly unicellular organisms differ from those used in most other biological investigations. The mode of transmission can include direct contact, droplets, and a vector such as a mosquito, a vehicle such as food, or the airborne route. The susceptible host has multiple portals of entry such as the mouth or a syringe

7. What are the 5 methods of disease transmission? Or (5 common ways germs are spread) Nose, mouth, or eyes to hands to others: Germs can spread to the hands by sneezing, coughing, or rubbing the eyes and then can be transferred to other family members or friends. Hands to food - Food to hands to food - Infected child to hands to other children: Animals to people:

8. What is Immunodiagnosics? This is a diagnostic methodology that uses an antigen-antibody reaction as their primary means of detection. The concept of using immunology as a diagnostic tool was introduced in 1960 as a test for serum insulin.

9. What is Immunological Diagnostic Techniques of Medical Viruses? Several immunological diagnostic techniques are available for the detection of human viral infections in clinical samples, including enzyme-linked immune-sorbent assay, western blotting, immunofluorescence assay, and hem agglutination inhibition assay. The general approaches to laboratory diagnosis vary with different microorganisms and infectious diseases. However, the types of methods are usually some combination of direct microscopic examinations, culture, antigen detection, and antibody detection (serology).

10. What are the principles of diagnosis? Signs and symptoms vary according to the site and severity of the infection. Diagnosis requires a composite of information, including history, physical examination, radiographic findings, and laboratory data.

11. What are the principles of bacteria identification? Identification of bacteria (including mycobacteria) is based on growth characteristics (such as the time required for growth to appear or the atmosphere in which growth occurs), colony and microscopic morphology, and biochemical, physiologic, and, in some instances, antigenic or nucleotide sequence characteristics.

12. What are Infectious diseases: Infectious diseases are diagnosed by the detection of a bacterium, virus, fungus, protozoan, or helminthic in a patient with a compatible clinical illness.

13. What are the principles of diagnostics of infectious diseases? There are four steps in the discovery of emerging pathogens: (1) awareness of the presence of an unknown disease, (2) detection of an infectious agent in association with the disease, (3) determination that the agent causes the disease (Koch's postulates revisited), and (4) determination that the etiologic agent.

14. What are the diagnostic techniques for the identification of parasitic infection? An etiological examination is to detect the parasitic pathogen from such specimens as stool, blood, bone marrow, sputum, body excretions, and secretions as well as tissue from the patient. It can be categorized into a staining test and a non-staining test. The test is done health care provider taking a blood sample and sending it to a lab. Blood smear. This test is used to look for parasites that are found in the blood. By looking at a blood smear under a microscope, parasitic diseases such as filariasis, malaria, or babesiosis, can be diagnosed.

15. Diagnosis of fungal infection: has relied primarily on methods such as direct microscopic examination of clinical samples, histopathology, and culture.

16. What is the principle of laboratory diagnosis of viral disease? The traditional approaches to the laboratory diagnosis of viral infections have been (1) direct detection in patient material of, viral antigens, or viral nucleic acids, (2) isolation of the virus in cultured cells, followed by identification of the isolate, and (3) detection and measurement of antibodies.

17. What is biochemistry in simple words? Biochemistry is the application of chemistry to the study of biological processes at the cellular and molecular levels. It emerged as a distinct discipline around the beginning of the 20th century when scientists combined chemistry, physiology, and biology to investigate the chemistry of living systems. In other words; the branch of science concerned with the chemical and physicochemical processes and substances that occur within living organisms. The processes and substances with which the science is concerned is biochemistry.

18. What is sugar? The white stuff we know as sugar is sucrose, a molecule composed of 12 atoms of carbon, 22 atoms of hydrogen, and 11 atoms of oxygen (C₁₂H₂₂O₁₁). Like all compounds made from these three elements, sugar is a carbohydrate. The primary function of sugar in your body's metabolism is to provide energy to power your activities. Additionally, sugar can convert to a stored form of energy in your body, and it plays a role in conserving your lean muscle mass.

19. What is Protein: The nutrient that is used in building, repairing, and maintaining body tissues. Every tissue Protein metabolism helps repair and build your body's tissues. It drives metabolic reactions, maintains pH and fluid balance, and keeps the immune system strong. It also transports and stores nutrients and can act as an energy source. These proteins provide structure and support for cells. On a larger scale, they also allow the body to move. These proteins bind and carry atoms and small molecules within cells and throughout the body. Protein **helps repair and build your body's tissues**. It drives metabolism the major functions of proteins are **providing structure, regulating body processes, transporting**

materials, balancing fluids, helping with ...actions, maintaining pH and fluid balance, and keeping the immune system ...

20. What is a Protein-bound iodine test: also called the PBI test, a laboratory test indirectly assesses thyroid function by measuring the concentration of iodine bound to proteins circulating in the bloodstream.

21. What binds iodine? Thyroglobulin is a protein made from amino acids. The most important amino acid in thyroglobulin is tyrosine because it is the component that binds with iodine.

22. What is Lipids? Are fatty compounds that perform a variety of functions in your body? They're part of your cell membranes and help control what goes in and out of your cells. They help with moving and storing energy, absorbing vitamins, and making hormones. Having too many lipids is harmful. Within the body, lipids function as an energy reserve, regulate hormones, transmit nerve impulses, cushion vital organs, and transport fat-soluble nutrients.

23. What is Lipid metabolism? is involved in different active functions of our body, such as energy storage, hormone regulation, nerve impulse transmission, and fat-soluble nutrient transportation. Liver function tests are **blood tests that measure different enzymes, proteins, and other substances made by the liver.**

24 What is the glucose tolerance test, also known as the oral glucose tolerance test, which **measures your body's response to sugar (glucose).**

25. What is radioactive iodine uptake (RAIU) tests for thyroid function? It measures how much radioactive iodine is taken up by your thyroid gland. Radioactive Iodine Uptake, or RAIU, is a test of thyroid function. The test measures the amount of radioactive iodine (taken by mouth) that accumulates in the thyroid gland.

26. What is the principle of radioimmunoassay? The basic principle of radioimmunoassay is **competitive binding**, where a radioactive antigen ("tracer") competes with a non-radioactive antigen for a fixed number of antibody or receptor binding sites. A radioimmunoassay (RIA) is an immunoassay that uses radiolabeled molecules in a stepwise formation of immune complexes.

27. What is the meaning of vitamin deficiency? Vitamin deficiency is the condition of a long-term lack of a vitamin. When caused by not enough vitamin intake it is classified as a primary deficiency, whereas when due to an underlying disorder such as malabsorption it is called a secondary deficiency.

28. What is Vitamin B12: Lack of vitamin B12 causes pernicious anemia. Other diseases related to B12 deficiency are muscle and nerve paralysis, extreme fatigue, and dementia. K (Phylloquinone): Excessive bleeding. C (Ascorbic acid): Scurvy; Iron: Anaemia and Iodine: Goitre, enlarged thyroid gland.

29. What are deficiency diseases of vitamins?

List of Deficiency Diseases

Types of Vitamins	Deficiency Diseases
B12 (Cyanocobalamin)	Anaemia
C (Ascorbic acid)	Scurvy
D (Calciferol)	Rickets
K (Phylloquinone)	Excessive bleeding due to injury

30. What are normal and abnormal constituents of Urine? These include urea, uric acid, and creatinine. The abnormal constituents of the urine are blood cells, albumin, and glucose. The presence of albumin, glucose, and blood cells in the urine causes pathological conditions called albuminuria, glycosuria, and haematuria respectively

31. What is the normal constituent of urine? It is an aqueous solution of greater than 95% water. Other constituents include urea, chloride, sodium, potassium, creatinine, other dissolved ions, and inorganic and organic compounds.

32. What is Haematology? The branch of medicine involves the study and treatment of blood. Hematology involves the diagnosis and treatment of patients who have disorders of the blood and bone marrow. Whilst a major part of a hematologist's time is spent in providing direct clinical care to patients, diagnostic work in the laboratory is also a significant part of their work.

33. What is Serology? The scientific study or diagnostic examination of blood serum related to the response of the immune system to pathogens or introduced substances.

34. What is a serology test for? A laboratory test that checks for the presence of antibodies or other substances in a blood sample. Antibodies are proteins made by the body's immune system in response to a foreign substance or microorganism, such as a virus.

35. What is Blood Transfusion: an injection of a volume of blood, previously taken from a healthy person, into a patient. A procedure carried out in which whole blood or parts of blood are put into a patient's bloodstream; through a vein. The blood may be donated by another person or it may have been taken from the patient and stored until needed.

36. What is Radiology: is a branch of medicine that uses imaging technology to diagnose and treat disease. Radiology may be divided into two different areas, diagnostic radiology, and interventional radiology. Doctors who specialize in radiology are called radiologists.

Radiology science deals with X-rays and other high-energy radiation, especially the use of such radiation for the diagnosis and treatment of disease.

37. What is Radiation therapy uses high-energy particles or waves, such as x-rays, gamma rays, electron beams, or protons, to destroy or damage cancer cells. Your cells normally grow and divide to form new cells. Radiation therapy kills cancer cells or slows their growth by damaging their DNA. Radiation therapy (also called radiotherapy) is a cancer treatment that uses high doses of radiation to kill cancer cells and shrink tumors that grow and divide faster than most normal cells.

38. What do you do during radiation treatment? During external beam radiation therapy, you're positioned on a table and a large machine moves around you sending beams of

radiation into precise points in your body. External beam radiation therapy is usually conducted using a linear accelerator — a machine that directs high-energy beams of radiation into your body.

39. What is Chemotherapy: The treatment of disease includes the use of chemical substances, especially the treatment of cancer by cytotoxic and other drugs.

40. What exactly does chemotherapy do? Chemotherapy circulates throughout your body in the bloodstream. So it can treat cancer cells almost anywhere in the body. This is known as systemic treatment. Chemotherapy kills cells that are in the process of splitting into 2 new cells.

41. What is the procedure for an angiogram? An angiogram is a **diagnostic procedure that uses imaging to show your provider how your blood vessels or heart are.** In a coronary angiogram, a catheter is inserted into an artery in the groin, arm, or neck and threaded through the blood vessels to the heart. A coronary angiogram can show blocked or narrowed blood vessels in the heart. A coronary angiogram is a procedure that uses X-ray imaging to see your heart's blood vessels.

42. What is angioplasty? Angioplasty is a procedure used to open blocked coronary arteries caused by coronary artery disease. It restores blood flow to the heart muscle without open-heart surgery. Angioplasty can be done in an emergency setting such as a heart attack. Or it can be done as elective surgery if your healthcare provider strongly suspects you have heart disease. Angioplasty is also called percutaneous coronary intervention.

43. What are Stents? Coronary stents are now used in nearly all angioplasty procedures. A stent is a tiny, expandable metal mesh coil. It is put into the newly opened area of the artery to help keep the artery from narrowing or closing again.

44. What is Open heart bypass surgery? Heart bypass surgery is typically an open-heart surgery, which means the surgeon cuts the chest open to reach the heart. The surgeon can then perform the surgery “on-pump” or “off-pump.” On-pump surgery involves using a heart-lung machine that circulates blood and performs the gas-exchange function of the lungs.

45. What is the difference between open heart surgery and bypass surgery? Open heart surgery is performed by making cuts in the patient's chest to reach the heart. In case of bypass surgery is a specific type of open-heart surgery where the remainder of surgery is off-pump or on-pump.

46. What is Open Heart Surgery? As the name suggests, this kind of heart surgery is performed by making cuts in the patient's chest to reach the heart. Open heart surgery is performed in case there is a blockage in the artery supplying blood to the heart. It is conducted to prevent the risk of a fatal heart attack and replace or repair damaged heart valves.

47. What is a Bypass Surgery? Bypass surgery is a specific type of open-heart surgery where the doctors usually open up the patient's chest to access the heart. After opening up the chest, the doctors perform the remainder of the surgery in two avatars: off-pump and on-pump. For off-pump surgeries, the patient's heart keeps on beating throughout the entire procedure; thus, it is also known as beating heart surgery. Under this surgery, no heart-lung

machine is required by the doctor. Also, this type of surgery is often possible without the cut in the chest and is thus categorized as closed heart surgery. The side effects and risks vary from individual to individual. Seek the advice of doctors in this case.

On the other hand, in the case of an on-pump surgery, the surgeons use heart-lung machines to stop the heart and efficiently conduct the operation. The heart-lung device helps in blood circulation and breathing alike. This surgery is performed by making cuts in the chest of the patient.

48. What is Pharmacology? IS the study of the origin, chemistry, and uses of drugs and their effects on the body? Pharmacology is the scientific study of the effects of drugs and chemicals on living organisms where a drug can be broadly defined as any chemical substance, natural or synthetic, which affects a biological system.

49. What is Pharmacy? a shop or hospital dispensary where medicinal drugs are prepared or sold. A pharmacy is a place of preparation and dispensing of medicines or drugs or ointments to needy patients. There are five types of pharmacies that also create and distribute medication. Hospital pharmacies provide drugs for patients who are getting inpatient and outpatient services in the facility such as 1. Clinic Pharmacy. 2. Research Pharmacy. 3. Regulatory Pharmacy. 4. Compounding and 5. Infusion Pharmacy.

50. Who is Pharmacist? The basic duty of a pharmacist is to check prescriptions from physicians before dispensing the medication to the patients to ensure that the patients don't receive the wrong drugs or take them.

51. What is Psychiatry: Psychiatry is the branch of medicine focused on the diagnosis, treatment, and prevention of mental, emotional, and behavioral disorders. A psychiatrist is a medical doctor (an M.D. or D.O.) Examples of mental health problems psychiatrists deal with include bipolar disorder, depression, anxiety disorder, personality disorder, panic disorder, post-traumatic stress disorder, and schizophrenia. They also handle drug and substance abuse, addiction, and dependence.

52. What is Psychology? Psychology is the scientific study of the mind and behavior. Psychologists are actively involved in studying and understanding mental processes, brain functions, and behavior. The field of psychology is considered a "Hub Science" with strong connections to the medical sciences, social sciences, and education.

53. What is Behavioral Neuroscience?

- Factors influencing plasticity of the brain and behavior through development and into adulthood
- Hippocampal Biology and Function
- Stress and the brain
- Neurogenesis and brain Plasticity across the lifespan
- Sex-related differences in brain function
- Endocrine and immune regulation of the brain and behavior
- The neurobiology of cognitive control

54. What is Clinical Psychology?

- The treatment of mood and personality disorders using cognitive behavioral therapies
- Biobehavioral Responses to cancer diagnosis and Treatment
- Testing and dissemination of psychological treatments for cancer patients
- Psychological and behavioral adaptation to chronic health problems
- Effects of Exercise on Psychological and cognitive functioning
- Neuroplasticity in healthy aging and neurological disorders
- Mindfulness and cognitive functioning in older adults

55. Who is Child Psychologist? Those who are specialized in Child Psychology are called “Child Psychologist”

56. What cardiac or heart failure, respiratory failure or peripheral failure are considered as cause of death? NO, most of the medical practitioners including senior consultant too write as cause of death. They or symptoms and mode of dying; hence cannot be taken as cause of death or underlying cause of death.

57. What is the Definition of the Cause of Death? The cause of death to be entered on the medical certificate is defined as “those diseases morbid conditions or injuries which either resulted in or contributed to death and the circumstances of the accident or violence which produced any such injuries”.

When only one cause of death is recorded, this cause is selected for tabulation. When death results from the combination of two or more conditions, these conditions may be completely unrelated, arising independently of each other; or they may be casually related to each other, that is, one condition may lead to another which in turn leads to a third condition and so on. Where there is a sequence, the underlying cause, i.e., the disease or injury that initiated the sequence of events will get selected for the purpose of tabulation. The condition does not include symptoms and modes of dying, such as heart failure or respiratory failure.

58. What is the Underlying Cause of Death? The cause of death for primary tabulation should be designated the underlying cause of death. To prevent the precipitating cause from operating the underlying cause has been defined as:

- (a) the disease or injury that initiated the train of morbid events leading directly to death, or
- (b) the circumstances of the accident or violence that produced the fatal injury. All these morbid conditions or injuries and consequences to the underlying cause relating to death are termed as the antecedent and immediate cause.

59. Why it is important training of medical staff and nursing staff on writing cause of death? It has been the experience of many hospitals and MROs that their death certificates don't meet the prescribed information on most of the death certificates. The MROs do not dare to question or ask the senior consultants and under their care patients are admitted and treated. The responsibility for accuracy, timely written, relevant, and complete records rests with the doctor under whose care was admitted. To avoid litigations, and to maintain a good record system; the need to impart a regular orientation to all the doctors and nurses about properly writing the cause of death in the death certificates and proper tabulation of mortality statistics.

60. What is Medical Auditing? Medical auditing is a systematic performance assessment within a healthcare organization. A medical audit is a systematic approach to peer review of

medical care in order to identify opportunities. Most healthcare elements can be audited, but many audits look at components of payer reimbursement processes to evaluate compliance with payer guidelines and federal and state regulations.

61. What is Patient Care Evaluation: Patient evaluation is made through medical history, physical examination, routine laboratory tests, and other diagnostic procedures. Healthcare evaluation is the critical assessment, through rigorous processes, of an aspect of healthcare to assess whether it fulfils its objectives. Aspects of healthcare that can be assessed include Effectiveness – the benefits of healthcare measured by improvement.

62. What period a discharged patient record can be kept by the ward? As a policy the patient discharged records are to be handed over to the Census clerk or return to MRD within 48 hours. Due to Corporate hospitals dealing with many insurance cases; it has become necessary to access and keep the records by them till the patient payment is paid by the either insurance company or by the patient. In such situation, the MRD will not be getting records within 48 hours. The MRD needs to wait one more day extra in some cases or even more. This may not have much effect. If the record is incomplete or has some deficiencies by doctors or healthcare providers, the MRD applies the “Deficiency Check List” to the record and gets completed by the healthcare providers later. The crux of the issue; is in some incomplete records have gone into the hands of corporate staff for settling the bill. As a general practice, the entire discharged record is photocopied or scanned; hence this record information is with them. Later, after the completion of records by the healthcare providers; the record has varied information with the insurance company and the MRD. This will create administrative and legal problems.

Hence, it is necessary for the hospital and the MRD to ensure all the patient records must be completed on a concurrent basis. This system is very much practically applicable to electronic health records. To avoid any issue later, the hospital and MRD policy should be that records be complete on a regular basis and to ensure this, the MRD should send the Census or any designated clerk on a daily basis to all the wards to check whether the treating records are complete or not. If not, insert a deficiency slip and make the staff including the treating doctor and nurse ensure that all the information is completed and intact, and then only the record is given to the insurance staff before the record is scanned.

63. What is the confidentiality of patient records? Confidentiality in the medical setting refers to “the principle of keeping secure and secret from others, the information given by or about an individual in the course of a professional service rendered to the patient. Confidentiality means the state of keeping secrets or not disclosing information. Confidential information, therefore, is information that should be kept private or secret. It is the right of an individual that his/her personal and medical information is kept private or confidential. Such delicate and confidential information about the individual should only be between him and the doctor, physician, healthcare, or Health Insurance Company. The medical information of the patient given to a health care provider shall not be divulged to others unless the patient gives his consent to disclose such information to others. In the USA, HIPAA’s privacy rules are very stringent, and any deviant will be liable for penalties and the responsible for patient confidentiality, as per HIPAA's Privacy Rule, which states that medical professionals cannot legally share patient information without their consent. Patient confidentiality supports the needs of both patient and physician. It protects patients from having their data misused, relationship and it is the right of every patient, even after death.

64. What is Security of Medical Records? Security of Medical Records or Health Record Information means the records in MRD to be safeguarded from any unauthorized to access the records or the information in it whether manual or electronic. And ensure the records are kept under lock and key or access to only authorized staff and protected from insects, termites, sun, water, fire, smoke or any other item that damage the quality of records or information. Preserve records according to the laws of national or state or hospital retention policy schedule. Be careful the records in teaching or research institutions and other institutions have the infrastructure to retain longer periods can be done. But never destroy records prior to the mandatory schedule period. Security also refers to maintaining the integrity of manual and electronic medical information. It is advisable to protect the manual records and network, educate the staff on the security of records,

65. Why MRD has to make monthly and yearly statistical reports? Statistics is a yardstick or barometer to measure the quantitative work done by the hospital staff, especially medical, nursing, and allied health departments. Through this practice, the MRD is collecting daily/monthly reports of OPD, A/E, IP and lab, radiology, dietary, etc. by the 5th of every month and prepares a consolidated report comparing with the last month's and last year's reports. The MRO has to do the collected data analysis and interpret the outcome of each department. The monthly report should be released to all the heads of department and the administration by the 10th of every month promptly. The report attracts the department heads to note the progress made and lacuna compared to others; and not only become interested in but competitive to do better than others. If they find any information is not tallying according to their calculation, they discuss it with MRO. In this way, the HODs depend on MRD and becomes in maintaining good records that will be useful for medical education and research besides protecting legally. In turn, you and your department become indispensable. There are many ways of presenting reports for efficient management that will lead the MRO to develop the MRD as one of the efficiently managed departments and his close link with management will enhance and that will help to promote the department and staff career.

66. Role of MRO in the hospital: Any qualified MRO has to realize that his job is to ensure that the staffs are trained and organize the MRD effectively to serve patient care efficiently. The MRD is not just a store room where records are stored, arranged, and retrieved. Its functions include developing medical record forms, or computer screens, and organizing the record system in OPD, A/E, and Inpatient wards. Wherever the records are used or processed; the MRO and his department involves. Currently, most corporate hospital MRDs are restricted to only the Inpatient records and the MRD. The outpatient registration and processing of records are managed by other staff; could be outsourced but not under the MRO. Similarly, the hospital coordinators in the inpatient wards also play a good role but are not attached to the MRD; in this way, although there are many staff working for the Medical record services throughout the hospital; but under various leaders. A prudent MRO will work hard and commit to his job and take all these responsibilities under his supervision as he is fully qualified and trained in the field. He will have adequate staff to train and arrange judiciously and improve the record system to a greater level and that will make his MRD and his status valuable. This way the MRO and his staff will outshine and succeed in achieving their goal.

67. Observing Dr. Mogli's Oath of Ten AUSPICIOUS Commandments by MRO:

Ten AUSPICIOUS Commandments: strongly suggested as the Ten Commandments comprehensively covers all healthcare professionals' especially the MROs responsibilities. If honestly executes he/she will outshine and succeed.

A: Acquaint	U: Uphold
S: Serve	P: Participate
I: Innovate	C: Contribute
I: Inspire	O: Outshine
U: Unify	S: Succeed

Dr. Mogli's Oath of Ten AUSPICIOUS Commandments for Healthcare Professionals”

In the name of my beloved parents, and teachers, God, made them as my witnesses that I, (Name)_____ take the Oath to fulfill my obligation to serve the sick and injured with full devotion by executing Dr. Mogli's Ten (AUSPICIOUS) Commandments throughout my professional life. I will...

68. What is the Definition of MLC? As per Prof. Dr. Mogli “all cases of Accidental, Homicidal and Suicidal are considered to be Medico-Legal cases in exceptional cases like children; or patient was getting care in the same hospital are “Brought Dead” at the discretion of treating physician to treat them as MLC or not. Cases wherever the attending doctor after taking history and clinical examination of the patient the treating physician determines whether the patient is a medico-legal or not; in fact all the cases of Accidental, Homicidal and Suicidal and all adult cases are MLCs, except in children are generally considered MLC. In some cases like Poison; rape need to collect investigations samples by law are essential to diagnose or right cause in accordance with the law of land.

Examples of MLC: 1. Injuries due to Accidents and Assault. 2. Suspected or evident cases of suicides or homicides (even attempted cases). 3. Confirmed or suspected cases of Poisoning. 4. Burns. 5. Cases of injuries with the likelihood of death. 6. Sexual Offences. 7. Suspected or evident Criminal Abortion. 8. All patients brought to the hospital in suspicious circumstances/ improper history (ex: found dead on road). 9. Unconscious patients where the cause of unconsciousness is not clear. 10. Child Abuse 11. Domestic violence, 12. A person under Police Custody or Judicial Custody. 13. Patients dying suddenly on the operation table or after the parenteral administration of a drug or medication. 14. Case of Drunkenness. 15. Brought Dead. 16. Natural Disaster.

The Police intimation: The police should be informed under Section 39 of Criminal Procedure. Code, the attending MO is legally bound to inform the police about the arrival of an MLC. Any failure to report the occurrence of an MLC may invite prosecution under Sections 176 and/or 202 of I.P.C. (According to Prof. Dr. Mogli; “Not documented in the patient record means not done”.

69. What is the Hospital disaster management? Hospital disaster management provides the opportunity to plan, prepare and when needed enables a rational response in case of disasters/ mass casualty incidents (MCI). Disasters and mass casualties can cause great confusion and inefficiency in hospitals. The main objective of the Hospital Disaster Management Plan is to optimally prepare the staff, institutional resources, and structures of the hospital for effective performance in different disaster situations. The role of HIM is to be very active

members of the hospital disaster team and facilitate the medical record system including the spot registration with identification tags, pre-numbered labels; apply bar-code system; (if necessary photographs of patients and keeping ready a few hundred records well-arranged and train the HIM staff and also doctors and nurses who use these records the methodology applied so that the treatment of injured and other patients can be carried out instantly. All these records with proper arrangements are kept in a well-designed trolley for disaster cases either kept in the A/E department or in MRD. If kept in MRD, it is ensured the moment disaster alarm or alert notification is received; the trolley is available place of care in a few minutes' time. The HI Manager or his designate for the purpose must be alert and along with his team ready to assist the medical disaster team.

70. What are the Top 10 Killer Death Diseases in India?

(With the advancement in the medical and healthcare industry, a lot has changed in India. Many fatal diseases have been exterminated with the invention of powerful vaccinations and treatment courses)

S. No	Disease	Causes of Disease	% of Deaths	Prevention Methods
1	Cardio-vascular Diseases	1. Use of tobacco 2. Diet, physical inactivity, and obesity 3. High cholesterol and high blood pressure 4. Heredity	24.8%	1. Quit smoking and use of tobacco 2. Eat a heart-healthy diet 3. Maintain a healthy weight
2	Respiratory Diseases	1. Smoking 2. Air pollution 3. Silica dust, Asbestos, grain dust	10.2%	1. Stay active; make sure your workplace is safe 2. Eat a healthy diet 3. Breathe deeply 4. Quit smoking
3	Tuberculosis	1. Contagious causes	10.1%	1. Vaccination with BCG vaccine 2. Eat a healthy diet 3. Regular preventative tests
4	Malignant and Other Tumours	1. Chemical or toxic compound exposures 2. Ionizing radiation 3. Pathogens 4. Genetics 5. Some unknown causes	9.4%	1. Avoid tobacco usage 2. Eat a healthy diet 3. Maintain a healthy weight and stay active 4. Get regular medical care and immunization
5	Defined Conditions.	Defined Conditions (In India die due to III defined conditions due to unknown and undetermined)	5.3%	1. Get regular medical care
6	Digestive Diseases	The major cause is the negligence of people while consuming food. 1. Unhealthy food 2. Medications: Aspirin	5.1%	1. Quit smoking and void the use of alcohol 2. Eat a healthy diet 3. Exercise lightly 5 days a week 4. Avoid daily use of aspirin,

		3. Alcohol and tobacco abuse		sulpha drugs, and steroids
7	Diarrheal Diseases	1. Food poisoning (bacterial infection) 2. Eating foods that upset the digestive system; allergic food 3. Medications and radiation therapy	5.0%	1. Wash hands frequently 2. Eat a healthy diet 3. Quit alcohol
8	Unintentional Injuries	India is rated as the number 1 country when it comes to deaths in road accidents! 1. Accidents/disasters	4.6%	1. Drive carefully 2. Carry a first aid kit
9	Intentional Self Harm	Suicide is the second most cause of death among Indians aged 15-29 years 1. Suicide	3.0%	1. Don't stress yourself 2. Talk to loved ones 3. Rehabilitation and counselling
10	Malaria	A survey report has revealed that about 95% of the country's population resides in malaria-endemic areas. 1. Parasite transmission by mosquitoes	2.8%	1. Avoid traveling to unhygienic places 2. Avoid mosquito bite 3. Use mosquito repellent cream

Q. No.	Subject
Dr. Mogli's Healthcare Technologist Handbook	
1	What does each alphabet (AUSPICIOUS) communicate in Dr. Mogli's Ten Commandments for Healthcare Professionals?
II	Anatomy and Physiology
2	What Cell contains and its functions?
3	What is Tissue and how many types of Tissues are there?
4	What is an Organ? Give five organs names
5	What is a System? How many systems are there in the human body?
6	What is the body cavity and what do they contain?
7	Write 15 positional and directional terms of the body and their description
8	How many types of muscles are there and name them?
9	How many bones are there in the human body? Questions related to the names of bones and their location will be asked. (Information can be found at the end of Question Bank.
10	How many joints are there and name them?
11	Name important parts of the Brain and what is their main function of them?
12	Name all the sense organs and major functions
13	How many glands are there and name them?
14	What Cardiovascular or Circulatory system consists of naming?
15	What Blood and blood groups include-name them?
16	Name all blood groups
17	What Lymphatic system consists of?
18	Name all major parts of the Respiratory System
19	Name all parts of the Digestive System
20	Name Accessory Organs of the Digestive System
21	Name the parts of the Urinary System
22	Name the parts of Male in Reproductive System
23	Name the parts of the Female in Reproductive System
24	Name Anatomical divisions of the body
25	What are important cavities and what name are their organs or parts?
26	Name the Anatomical division of the back (spinal column) and how many bones are contained in each column?

27	Name all positional and directional terms of the body and description of the position
28	What is Oncology? How many types are there? Explain each type,
29	Briefly explain Psychiatry and Psychotherapy
30	What are Clinical Psychology and its purpose?
III	Medical Terminology
31	What is the purpose of studying Medical Terminology?
32	Explain briefly about Word Structure with examples
33	What are the chief sources of Medical Words and give examples of each source?
34	Write five diagnostic suffixes & compound elements with medical terms and definition
35	Write five operative suffixes & compound elements with medical terms and definition
36	Write five symptomatic suffixes & compound elements with medical terms and definition
37	Write Ten color names with medical terms and give examples for each term
38	Write Ten numeral names with medical terms and give example for each term
39	Write Ten root names with medical terms and definitions
40	Write Ten prefixes names with medical terms and definitions
41	Ten terms will be given for which meaning to be written
42	Ten meanings will be given for which medical term to be written
IV	Healthcare Delivery System
43	Where healthcare is provided to patients and name them and their main functions?
44	Write Dr. Mogli's Definition of Hospital
45	What are the major services of a hospital and their functions?
46	Write Ten inpatient specialties' names and their functions?
47	What is a major role of a Nurse related to medical records?
48	Briefly explain the functions of A/E, ICU, OT, and Recovery room
49	What are the major sections of the laboratory and their functions?
50	Write major function of the Blood bank (blood transfusion)?
51	What are major Radiology diagnostic services; name them and their functions
45	What is Radiation Therapy? How many types of therapy are there and what purpose is used?
46	What is Pharmacology? Give five important drugs its action & examples
47	How hospital pharmacy does differ from a general pharmacy store?

48	What is Physical therapy (PT); name therapies with definitions and functions
49	What is Occupation therapy(OT); what are its main functions
50	What is a Rehabilitative service? Its objectives and who are the beneficiaries?
51	What is Optometric and who are beneficiaries of this service?
52	What is Audiometric service and who are beneficiaries of this service?
53	What is the main function of the Public Health Service?
54	What is a Hospital-acquired infection? And How it could be prevented?
55	What do you understand about Occupational Health Safety and its main objectives?
56	What is the difference between Malignant and Benign and in what cases these names are used?
57	What is the difference between Adult and Paediatric Patients? What service do these patients use when they become sick?
58	What are Diabetics; how many types are there and how is it managed?
59	What is Dialysis; how many types and their objectives?
60	What is IVF (In Vitro Fertilization) where and when used?
61	Explain briefly the Dentist and areas of the Dentist?
62	What is Nutrition and how it is useful for good health?
63	What is the role of nutrition in the hospital?
64	What are the seven major classes of nutrients?
65	Who is Medical Social Worker and what is his role in inpatient care?
66	What is the role of the Biomedical Engineering service in the hospital?
67	What are CSSD and its main role in the hospital?
68	Who is the Hospital Patient Care relation Coordinator and are his functions?
69	Who is Medical Transcriptionist and what he does do?
70	Who is Medical Secretary and what is his role in the hospital?
71	List five most important telephone techniques!
V	Medical Records
72	What is the importance of having Medical Record Standards?
73	What is the difference between a Policy and Procedures?
74	Why Policies are important?
75	Define Medical Records and their main purpose
76	What are its values and who benefits from good records?

77	What is the main function of the MRD?
78	What are the main needs of their MRD? Or To maintain MRD what do you need?
79	What is a Personal & Impersonal Document in relation to Medico-legal cases?
80	What is Consent? How many types? Why and when it is taken?
81	What is the Confidentiality? How does MRD protect confidentiality?
82	What information can be released without the permission of a patient? & Why?
83	What are Quantitative analysis and Qualitative analysis?
84	Why do we need an MRD committee and who should be members of the committee?
85	Why Medical Record Forms are important? How do you control the Forms?
86	What type of statistics is collected in the hospital? Why do we collect them and who uses them and for what purpose?
87	What do you understand by preservation and retention of old records?
88	What are the most important records to be retained and how long (years)?
89	List at least FIVE most important registers maintained in the hospital! Why were they maintained? Or purpose of maintaining them.
90	What are the categories of staff work in MRD? And what are their main responsibilities?
91	Explain the main difference between OPD Chit or Slip; departmental record or comprehensive record!
92	What is the purpose of the Alpha Index? Where used and how it is useful?
93	Why records are Assembled and arranged in chronological order?
94	What records are considered to be incomplete?
95	How incomplete records can be completed and who is all responsible for completion?
96	Explain the meaning of Coding & Indexing of records; where and when it is done?
97	Draw a flowchart for OP service by a patient!
98	Draw an Inpatient travel for service!
99	What benefit do we get by processing OPD records?
100	What are the processing methods for completing the inpatient record?

101	Why keeping a complete record is important?
102	What is Hospital Ward Census and why it is important?
103	Why deficiency checklist is required?
104	What are the major sections of the inpatient record?
105	What type of statistics are collected in the hospital and why?
106	What are the major problems and Filing and Retrieving of hospital records?
107	Where are X-rays to be filed in MRD or Radiology and what numbering system to be practiced and justified?
108	What is the main difference between manual and electronic records? Justify your answer by giving Five reasons to justify it.
109	Why do we classify the diseases and operations? Why do we code them and how do we code them?
110	Explain the difference between Morbidity and Mortality/
111	Who needs the information on morbidity and mortality and why?
112	What is the International Classification of Procedures in Medicine? What is the difference between Volume I and Volume II?
113	What is Personal Health Record (PHR) purpose? How this record is useful to treating doctors?
114	In what cases does the court subpoena the medical records to the court?
115	If the medical record is incomplete –what possible bad result can be expected?
116	What is Consumer Protection Act 1986? What advantages to patients?
117	Briefly explain about AYURVEDA
118	What is the Accreditation of a hospital and why it is done?
119	What has to be done to succeed to get an accreditation of the hospital?
120	Briefly explain the role of HIM in getting the hospital accreditation?
121	What is Quality Assurance Standards?
122	Who is responsible to carry out the Quality Assurance Program?
123	What important services or specialties need a periodical QA program?
124	What type of service a present-day patient expects from the hospital or healthcare providers?
125`	How do economize the healthcare service expenditure?
126	Why should you have good communication skills?
127	What communication skills you should have and why listening skills are important?

128	Who is a Leader? What characteristics he or she should have?
129	Explain Motivation; how do managers motivate their staff?
130	Write Ten important capabilities of HIM professionals?
131	Why Accurate and comprehensive statistics are essential?
132	What important statistics are collected and compiled in the hospital?
133	What are the advantages of Mogli's Ready reckoner for counting the hospital?
134	How many annexures are there in your book? What purpose?
135	What is the purpose of "Terms and Definition used in the Healthcare Management?"
136	Explain briefly Why Standardized Abbreviations with a single meaning are required?
Dr. Mogli's Health Information and Health Informatics Professionals Handbook	
137	How did we transform from Manual records to electronic health records?
138	Write Dr. Mogli's definition of a Hybrid health record
139	What steps are required to computerize the manual records? At the policy and decision making (Govt.) level or at the technical executing level?
140	What is the major difference between computerized appointment systems?
141	Make a Comparison between computer-stored <i>versus</i> manual handwritten medical records
142	What are the advantages of Strategic E.H.R. Planning?
143	What are the challenges of E.H.R. adoption?
144	What are major E. H. R. Limitations- briefly explain.
145	Elaborate E.H. R. Functional requirements
146	What measures are required in Check List for Assessing HIM Department Readiness and Planning for E.H.R
147	Name all-important E.H.R standards that are required to apply while developing the software for achieving interoperability
148	What is Infrastructure? How do we assess them to ensure the E.H.R. System functions well?
149	What ingredient is required for E.H.R. System implementation and maintenance?
150	Explain briefly How the Nursing Electronic records benefits the patient?
151	How do you draft a Blueprint for implementing and executing a good electronic health records system in a hospital?

152	What Core capabilities are expected from the implementation of E.H.R?
153	“Physician treat patient and HIM treat hospital for cost control” how is possible-justify?
154	What is the major role of the Health Information Manager (HIM) in the next10 to 20 years?
155	Why do we need to modify the HIM traditional education to the corporate competing syllabus to generate innovatively leaders?
156	Explain briefly How we can execute Healthcare Transformation through AI, ML, and robotics?
157	What major problems are experienced in maintaining medical records in Developing Countries- list them according to priority and importance?
158	What ate the suggested remedies for improving the Developing Countries HIM system?
159	What capabilities HIM graduates should possess?
160	What type of sacrifices were made by HIM professionals to bring the IFHIMA to the present HIM generation?
161	List the names of those sacrificed by decades of dedicated service to the profession and some are continuing their efforts to uplift the profession status.
162	What suggestions are made by the author for IFHIMA to achieve its set objectives?
163	Why patient record is a legal document?
164	In what cases the medical record is summoned or subpoenaed by the court?
165	Name all types of consent taken in the hospital and their purpose?
166	Who are authorized and who have not authorized persons in case of release of information?
167	In what cases patients/attendant permission is not required while releasing the information?
168	What is Medical Malpractice Negligence! What measures need to prevent?
169	What are the Medical Council of India’s guidelines on the retention of records?
170	What special measures are to be observed by HIM for legal aspects of E.H.R?
171	What measures are taken in the retention and preservation of E.H.R?
172	Why is the Accreditation of Hospital the required-its purpose?
173	Who are authorized to accredit the hospital and by what methods?

174	What is the difference between NABH and JCI; which is preferred?
175	In JCI 4 days 3 surveyors – program -what they do –briefly explain?
176	Why the hospital should have well-organized and efficiently managed MRD?
177	In the survey process “Closed and Open” words are used for what purpose?
178	What the author has emphasized in his conclusion on Accreditation?
179	Role of HIM in Accreditation of the hospital?
180	Who is a Patient and what does he expect from the hospital?
181	Where and Why the patient safety affected?
182	What is the patient of the common risk suffers in the hospital?
183	How IT can help in preventing the adverse effect!
184	What are patient safety solutions?
185	Why do we need quality assurance standards?
186	What are the data sources for the quality assurance program?
187	What are quality assurance and programs?
188	What is Utilization review by medical staff?
189	What is methodological consideration in Quality Assessment?
190	Briefly explain what are Potential issues in economics in Healthcare Delivery?
191	What measures are needed to Economize Health Service Expenditure?
192	Why managerial skills are very essential for a manager?
193	Why effective Listening is considered most important for a good manager?
194	What the author has emphasized in his conclusion-repeat-repeat – Why?
195	Who is a Leader and what characteristics should have to be a good Leader?
196	How does Manager motivate the staff to be more effective in their work?
197	What are the four laws of Motivation?
198	What are HIM capabilities within the lifecycle?
199	How Mogli’s Ready Reckoner is useful in the present computer-oriented days in the hospital. Explain where this can be useful to save the time of staff?
200	How many annexures are there and there? Explain the main purpose –how it will benefit the reader?
201	What is Software? Explain briefly!

202	What is a Program in computer language? Explain briefly!
203	What is an Operating System in computer language?
204	What is Application Program in computer language?
205	What is RAM? Explain
206	What is Primary storage in computer Language?
207	What secondary storage is in computer language?
208	What is the difference between LAN and WAN?
209	Name all the components you need to make the best use of the computer
210	What do you mean by RDMS?
211	What measures you would take to develop computers in MR or HIM Department in a 300 bedded computerized hospital system?
212	Why do we need hospital information? What information is essential and how can we collect accurate information?
213	As an effective MRO or HIM Manager, what line of conduct do you adapt in dealing with the staff to make the MR or HIM department most efficient?
214	What measures you would take in a 500-bed hospital having lots of problems with the MR or HI Department? And How you will bring into an efficient hospital?
215	What steps would you take to organize an MR or HIM Department with a “Unit Record” system in a newly opened 600 bedded acute general hospital (Your answer should cover all salient features)
216	What is Dr. Mogli’s definition of Medical Records?
217	What is the purpose of E.H. R?
218	How the Medical Records is important to Patient, Physician, Healthcare Institution, Research team, the teaching program, national health agencies, and International health agencies
219	Define Electronic Health Records!
220	Name the Electronic Health Records-related Standards?
221	The physician treats the Patient and HIM treats the hospital for controlling healthcare cost
222	HIM professionals besides their hospital environment what other places work and what do they do?
223	Why the Medical, Nursing, and Hospital Administrator educational institutions incorporate the economics and cost subjects in their curriculum?
224	What measures are required to make HIM profession popular?
225	What methods does the HIM Profession adopt to reduce the cost and minimize the expenses of the hospital?
226	Why a Central HIM department be established in the Ministry of

	Health and who should head the department?
Health Information Manager (HIM) Education and Training in the next 10 to 20 years	
227	What are the advantages of Healthcare Transformation through Technology e.g., Artificial Intelligence (AI), Machine Learning (ML), and Robotics?
228	Why is HIM education to be modified in the present context?
229	Explain the methodology of teaching and learning in the modern situation!
230	Why Professionals are needed?
231	What is the Mock-up (Stimulation) MR Laboratory at the college site?
232	Role of Health Information Manager (HIM) in the next 10 to 20 years
233	What changes take place in the Health Care Delivery System in the next 10 to 20 years?
234	Why do we use the term “Change or Perish” and what it's the real impact?
235	Briefly explain what would be the HIM Professional role in the 10 to 20 years!
Transformation of HIM Status in Developing Countries (DC) in the next 10 to 20 years	
236	Briefly list the HIM problems experienced 4 decades back is still existed even today in Developing countries- what are they?
237	Why do we need to form a national association for the HIM field?
238	What measures are suggested to improve the HIM departments of any nation?
Evolution of IFHIMA from the 20th century and how it will grow in the 21st Century	
239	How the International Federation of Health Information Management Association (IFHIMA) was created, when and where it was formed, and who was a pioneer of this association?
240	Briefly explain the transformation of Medical records from early stages!
241	What are the three categories of decades of dedicated service to the profession?
242	What are the main objectives of the IFHIMA?
243	What are the new challenges of IFHIMA?
244	What suggestions are made for IFHIMA to achieve its goals?
Leadership	
245	Who is a Leader?

246	How a leader can create a highly productive organization in today's highly competitive world?
247	What type of training makes a good leader?
248	What is trust-building? And how it could be achieved?
249	What is effective listening and how it benefits to a leader?
250	Explain briefly What is a leadership talk?
251	Qualities of a leadership style
252	Who is a Leader: A leader is "a person who influences a group of people towards the achievement/
Motivation	
253	What is Motivation?
254	How managers motivate staff
255	What are 4 laws of Motivation?
256	How to create Motivation?
Managerial Communication Skills	
257	Why do we need to have good communication skills?
258	What is Brainstorming and how it is done what benefit do we get?
259	What are Leadership skills?
260	What benefits are there ineffective listening?
261	What is Non-verbal Communication and when do we use this type of communication?
262	What is stress management
263	Repeat-Repeat and repeat considered being one of the most vital communications –Why?
Quality Assurance	
264	What is Quality Assurance?
265	What is Quality Assurance Program?
266	What is Quality Assurance Process?
267	What are the most important departments of the hospital in which the Quality Assurance is done periodically? & Why?
268	Briefly explain the Risk Management?
269	How Quality Assurance Program is organized?
270	Briefly explain who organizes the QA program?
271	When implementation of the Q. A program is made?
272	What made Oman conduct a Q. A. program in Primary Health Centers (PHCs)?
273	Briefly explain how to develop hospital standards
274	The managerial method must serve whom and how it benefits?
275	Leaders are made and not born! Explain your way of Leader!
276	What are the principal causes for the downfall of leaders? Briefly the causes.

277	What do you read in Dr. Mogli's Mirror an ordinary with minimal education has grown and how it is possible?
278	What should be a strong leader's nature to do his best? Elaborate
279	What is your conclusion from reading Dr. Mogli's Mirror? Briefly explain.
280	Did you have any inspiration to grow yourself to a high level and win self-esteem!

XXVII Brainstorming project Assignment

S. No.	Topic
1	What is Hospital and what are its functions?
2	Accident and Emergency Department
3	Outpatient Services
4	Public Relationship
5	Hospital Patient Care Relationship Coordinator
6	Medical Transcriptionist
7	Medical Secretarial Profession
8	Medical Social Worker
9	Nutritionist
10	Managing Medical Records (Manual)
11	Managing Electronic Health Records
12	Needs of Medical Record Department
13	Retention and Preservation of Medical Records (Manual)
14	Hospital Statistics
15	International Classification of Diseases (ICD)
16	Personal Health Records (PHR)
17	Ayurveda
18	Unani
19	Siddha
20	Yoga
21	Naturopathy
22	Homeopathy
23	Hospital Accreditation
24	NABH or JCI Role in hospital accreditation
25	The Patient his problems and expectation with the hospital
26	Potential issues of economic problems in the hospital
27	How to economize healthcare service expenditure
28	Why do we need Management Skills and what are the benefits
29	Leadership
30	Motivation
31	HIM capabilities
32	Organizing an MRD of a 300-bed new general hospital
33	How you develop a computerized health record in a hospital of 500 beds
34	Why do we need a good hospital Information System?
35	How you carry out the MRD staff management in a 600-bed general hospital

36	What Training or Orientation program for MRD staff in a 300 bedded hospital to maintain an efficient medical record department
37	Control of Incomplete records
38	How HIM Manager can control the hospital cost?
39	As an HIM Manager what measures you would adapt to well organized and managed HIM Department
40	Medico-Legal Cases in the hospital
41	What major problems were encountered by HIM Manager and how to tackle them?
42	How Dr. Mogli's 10 AUSPICIOUS Commandments will be useful to Healthcare professionals
43	Why HIM staff have to study Basic Anatomy, Physiology, and Medical Terminology to be HIM Professional.
44	What is Quality Assurance and its Program- and its benefits to patient care
45	Medical Record Forms
46	Medical Filing Room advantages and disadvantages
47	Conducting a Workshop on Importance of Medical Records in HCD.
48	Conducting a Conference on HIM in efficient management of Hospital
49	What is the ingredients to acquire to be a good healthcare Technologist?
50	When you can say that "I am confident to do the job efficiently and I am very capable to take the managerial position and I will outshine:".
51	Incomplete Records –(the document does not meet the requirement for patient care or other purposes)- what steps you would take to improve?
52	Length of Stay in the hospital (LOS) according to disease/operation- how one can reduce the LOS without sacrificing the quality of care.
53	Retention Period for medical records (Number of years medical records to be retained permanently) and why?
54	Legal Issues related to patient care, and management
55	Computerization of Medical Records - prepare a roadmap
56	Patient Waiting time in different sections of Outpatient clinics
57	Patient visit pattern to the hospital
58	Patient disease pattern.
59	Admission pattern including repeated admissions

60	HIM management system in secondary care hospital.
61	Management of HR of HIM department
62	Patient problems in different areas of hospital wards or clinics
63	Medical and Nursing Staff problems related to HIM work
64	Role of HIM in Medical Education
65	Role of HIM in Medical Research
66	<p>Development of software: ICD coding;, Registration; Admissions; Appointments; Record tracking Medical Transcription- medical reports; Quality Improvement in HCD Quality Improvement in HIM&T; Data storage, coordinating Master patient Index; Online Lab and other Investigations; HIM Department HR management; Online transmission of Health Information; Healthcare cost Information security, privacy and confidentiality; Analysis of Diseases as per approved ICD; Risk Management; Drug prescription and abuse Safety and Back up information; Hospital disaster program</p>
67	Missing and mismatching of investigation reports
68	Incomplete diagnoses and operations
69	Incomplete records
70	Quality Improvement and Assurance of a super specialty hospital
71	Performance Improvement of Healthcare providers in a general hospital
72	Accreditation requirements and you will meet them
73	Technology: Hospital Computerization System –to make paperless.
74	Study of Patient visit pattern in outpatient of a specialty hospital
75	Evidence based Medical Practice in a teaching hospital
76	Cost effectiveness in the HIM dept, – how you will achieve
77	Cost effectiveness in Hospital as a whole-how will you achieve?
78	Human resource management in HIM&T department
79	Retention Period is decided on the basis of what criterion?
80	Legal issues in HCD that need to be protected hospital staff.
81	HIM department requirements to function efficiently
82	Infection Control of the hospital- role of HM
83	Medical Staff relationship with HIM in efficient maintenance of records

84	Nursing staff relationship with HIM in efficient maintenance of records
85	HIM relationship with s Lab, Radiology, Pharmacy and Administration
86	Relationship with Patients and their relatives or attendants
87	Development of Electronic Health Records Administration Records; Clinical Records; Patient information (statistics) Investigation; lab, x-ray and other allied departments. Development of Formats for registration; appointments, clinical visits
88	HIM education /training and curriculum setting
89	HIM student needs and their performance in HIM theoretical Program.
90	HIM staff improvement (continuing education or any other orientation)
91	Development of efficient relationship with the Administration to ensure the HIM moves forward with utmost efficiency.
92	Economic measures suggestions through HIM department
93	Minimize Patient waiting time in different sections of the hospital.
94	Transformation of health records from manual to electronic records.
95	Risk Management- what measures needed to minimize the risks.
96	Drug prescription and abuse- what do you mean how it can be controlled?
97	Safety and Back up information of health information of a hospital
98	Hospital disaster program –that will meet the exigency.
99	Project Evaluation Format: (Sample copy) Student; _____ ID# _____ Organization Project _____ Coordinator: _____ Project: _____ Project Time Frame: _____
100	1. Describe the nature and objectives of given project. 2. What was the final product that you were asked to produce? 3. Describe the mechanisms and skills that you employed to produce the outcomes of the project.

4. Describe the organizational support that you received in accomplishing this project.
5. Describe the strengths of your educational background in performing this project.
6. Describe the weaknesses of your educational background in performing this project
7. Describe how the final product met the initial goals and objectives.
8. Describe the organization's response to the final product.
9. How much time did you commit to this project?
10. Briefly summarize the significance of this learning experience.
11. What grade do you feel you deserve for this project?

Guidelines for writing the Project Assignment Report

- **Introduction including objective of the project**
- **Materials and Methods:**
- **The Body of the report**
- **The Discussion**
- **Summary**
- **Conclusion**
- **Recommendations**
- **References**

Introduction: The **introduction** provides relevant background information and puts the study into context, guiding the readers through the rest of the manuscript and helping. A good introduction skilfully draws the reader's attention to the topic and arouses interest. The introductory paragraph also needs to describe the objective of your paper, and state the methods you will use to achieve your goal.

Materials and methods: section (or sometimes called the methods section) is the heart of your scientific article because it shows the credibility and validity of your work.

The body of the report; is a detailed discussion of your work for those readers who want to know in some depth and completeness what was done. The body of the report shows what was done, how it was done, what the results were, and what conclusions and recommendations can be drawn.

The discussion section: is one of the final parts of a study or research paper, in which an author describes, analyses, and interprets their findings. They explain the significance of those results and tie everything back to the research question(s).

Summary: It should restate the purpose of the report, highlight the major points of the report, and describe any results, conclusions, or recommendations from the report. It should include enough information so the reader can understand what is discussed in the full report, without having to read it.

Conclusion: is the final piece of writing in a research paper, essay, or article that summarizes the entire work. The conclusion paragraph should restate your thesis, summarize the key supporting ideas you discussed throughout the work, and offer your final impression on the central idea.

Recommendations: suggestion or proposal as to the best course of action, especially one put forward by an authoritative body.

References: If you have referred some material and wish to provide reference; it would be appropriate.

XXVIII**Brainstorming Quiz Question Bank for HIM & Health Informatics Professionals**

Kindly Note: Search the answer from the book - and write the Chapter number (Ch. No) & Page number (P. No). If you do not find the answer in the book; prepare your answer referring other books.

S. No	Question	Ch. No & P. No.
1	What is MRD or HI Department?	
2	Who is called Medical Records Officer or Health Information Manager(HIM)	
3	What are MRO/HIM' academic and Professional Qualifications	
4	What are MRO/HIM responsibilities?	
5	Why does the MRO/HIM have to learn Anatomy & Physiology/	
6	Why does the MRO/HIM have to Learn Medical Terminology?	
7	Why the MRO /HIM has to learn Pathology?	
8	Why the MRO /HIM has to learn basic Microbiology?	
9	Why does the MRO/HIM have to learn basic Biochemistry?	
10	Why does the MRO/HIM have to learn the basics of Haematology?	
11	Why does the MRO/HIM have to learn the basics of Serology?	
12	Why does the MRO/HIM have to learn the basics of Blood Bank?	
13	Why does the MRO/HIM have to learn the basics of Radiology?	
14	Why does the MRO/HIM have to learn the basics of Radiation therapy?	
15	Why does the MRO/HIM have to learn the basics of ECG?	
16	Why the MRO /HIM has to learn the basics of Echocardiogram?	
17	Why does the MRO/HIM have to learn the basics of EEG?	
18	Why does the MRO/HIM have to learn the basics of the Treadmill?	
19	Why does the MRO/HIM have to learn the basics of Ultrasound?	
20	Why does the MRO/HIM have to learn the basics of CT scans?	
21	Why does the MRO/HIM have to learn the basics of MRI?	
22	Why does the MRO/HIM have to learn the basics of Oncology?	
23	Why does the MRO/HIM have to learn the basics of Psychiatry?	
24	Why does the MRO/HIM have to learn the basics of Psychology?	
25	Why does the MRO/HIM have to learn the basics of Nutrition?	
26	Why does the MRO/HIM have to learn the basics of Dietetics?	
27	Why the MRO /HIM has to learn the basics of CSSD?	
28	Why does the MRO /HIM do has to learn the basics of the Biomedical Department?	
29	Why does the MRO /HIM do has to learn the basics of Public Relation service?	
30	Why does the MRO /HIM do has to learn the basics of the Patient Care Relationship Service?	
31	Why does the MRO/HIM have to learn the basics of Quality Assurance?	
32	Why does the MRO /HIM do has to learn the basics of Medical Audit?	
33	Why does the MRO/HIM have to learn the basics of OP service?	
34	Why does the MRO /HIM do has to learn the basics of A/E or ER or Casualty service?	

35	Why the MRO/HIM has to learn the basics of Inpatient?	
36	Why the MRO/HIM has to learn the basics of Operation theatre (OT) service	
37	Why the MRO /HIM has to learn the basics of ICU, ICCU, and NICU?	
38	Why the MRO /HIM has to learn the basics of Physiotherapy?	
39	Why does the MRO /HIM do has to learn the basics of Occupation therapy?	
40	Why does the MRO/HIM have to learn the basics of the Re-habitation service?	
41	Why the MRO /HIM has to learn the basics of Medical Transcription service?	
42	Why does the MRO /HIM do has to learn the basics of the Medical Secretarial Service?	
43	Why does the MRO /HIM do has to learn the basics of Medical /Bio-Statistics?	
44	Why does the MRO /HIM do has to learn the basics of Hospital Administration services?	
45	Why does the MRO/HIM have to learn the basics of Leadership qualities and why?	
46	Why does the MRO /HIM do has to learn the basics of Motivation and how to apply it?	
47	Why does the MRO /HIM do has to learn the basics of Communication Skills?	
48	Why does the MRO /HIM do has to learn the basics of the development of medical record forms?	
49	Why the MRO /HIM has to learn the basics of computer application in HIM dept.?	
50	Why does the MRO /HIM do has to learn the basics of developing computer screens in place of manual forms?	
51	Why does the MRO /HIM have to learn the basics of Financial implications in the patient care system?	
52	Why the MRO /HIM has to learn the basics of improving the quality of patient care?	
53	Why the MRO /HIM has to learn the basics of the difference between data and information?	
54	Why does the MRO /HIM do has to learn the basics of daily ward census?	
55	Why does the MRO /HIM do has to learn the basics of Assembling patient records?	
56	Why does the MRO /HIM do has to learn the basics of how to assemble the patient record in a systematic order?	
57	Why does the MRO /HIM have to learn the basics of the difference between patient record assembling order in the ward and after discharge of a patient in the MRD?	
58	Why does the MRO /HIM do has to learn the basics of Deficiencies in the content of patient records/documentated by doctors? By nurses or by other healthcare providers?	
59	Why does the MRO/HIM have to learn the basics of the collection of OP Date and what type of data is collected?	

60	Why does the MRO/HIM have to learn the basics of collecting Emergency patient data and what type of data is collected?	
61	Why does the MRO /HIM do has to learn the basics of recruiting the MR/HIM staff and what type of staff are recruited and what qualities are checked in the personnel?	
62	Why does the MRO /HIM do has to learn the basics of preparing the MR/HIM department policies?	
63	Why does the MRO/HIM have to learn the basics of Medical Record content writing policies by healthcare providers, especially medical, nursing, and paramedics?	
64	Why does the MRO /HIM do has to learn the basics of preparing MR maintenance procedures?	
65	Why does the MRO /HIM do has to learn the basics of the MR organization system?	
66	Why the MRO /HIM has to learn the basics of equipping the MRD?	
67	Why does the MRO/HIM have to learn to prepare the MR policies and procedures?	
68	Why does the MRO/HIM have to be a good recruiter to select his /her staff?	
69	Define the Medical Records as defined by Dr. Mogli	
70	Write important purposes of Medical Records?	
71	Who documents the medical record forms/records? What do they write?	
72	Who the medical records are valuable?	
73	How Does the Medical Record Benefit Doctor/Physician?	
74	How Does the Medical Record Benefits Hospital?	
75	How Does the Medical Record Benefits Medical Education?	
76	How Does the Medical Record Benefits Medical Research?	
77	How Does the Medical Record Benefits Public Health?	
78	How Does the Medical Record Benefits Insurance company?	
79	How Does the Medical Record Benefits Medical Reimbursement?	
80	How Does the Medical Record Benefits Medical Legal Purpose?	
81	How Does the Medical Record Benefits National Health Data?	
82	How Does the Medical Record Benefits International Health Data?	
83	What is the minimum retention period required for OP records?	
84	What is the minimum retention period required for IP records?	
85	What is the minimum retention period required for A/E records?	
86	What is the minimum retention period required for MLC records?	
87	What is the minimum retention period required for OP-xrays?	
88	What is the minimum retention period required for IP-X-rays?	
89	What is the minimum retention period required for OP-X-rays?	
90	What do you mean by the confidentiality of medical records?	
91	What do you mean by the security of medical records?	
92	What do you mean by the records to be relevant?	
93	What do you mean by the records being timely documented?	
94	What do you mean by the records to be accurate?	
95	What do you mean by the records to be complete as a document?	
96	What do you mean by incomplete medical records?	

97	What do you mean by recording to be legible and readable?	
98	What do you mean by ICD-10?	
99	What do you mean by coding of diseases?	
100	Why do we need to code patient records?	
101	Which organization introduced the ICD-10 in the world?	
102	How many volumes are there in ICD-10?	
103	How many chapters are there in ICD-10?	
104	How the ICD-10 code is in numerical or alphabetical or Alphanumeric?	
105	What is the purpose of Volume I?	
106	What is the purpose of Volume II?	
107	What is the purpose of Volume III?	
108	What is the arrangement of ICD-10 or Hierarchical structure?	
109	What do you mean by dual Coding and why do we code–dual coding?	
110	What purpose does the Dagger code is used for?	
111	What purpose does the Asterisk code is used for?	
112	What do you mean by Indexing coded cases?	
113	How the disease index information is useful?	
114	How many important types of disease index cards or computer screens - one should have and Why?	
115	What do you mean by Physician index card?	
116	How to use ICD-10 Coding books and which one was used first and why as a general principle?	
117	Why we should know the rules of ICD-10 coding thoroughly?	
118	What is Co-morbid disease?	
119	Why the ICD is called the International Classification of Diseases? What advantages of using the ICD-coded information?	
120	Why, when, and where the classification of the disease started?	
121	Do we need to code co-morbid diseases? If so, Why?	
122	What is the main difference between ICD-9 and IC D-10?	
123	How to use Volume-1?	
124	How to use Volume-3?	
125	What special types of Abbreviations are used in ICD and why?	
126	Define Diagnosis.	
127	Define clinical Diagnosis.	
128	What is Principal Diagnosis?	
129	What is Pathological Diagnosis?	
130	What is Differential Diagnosis?	
131	What is a Provisional or Tentative Diagnosis?	
132	What is the Final Diagnosis?	
133	What is Pre-operative Diagnosis? Is it important if so, why?	
134	What is Post-operative Diagnosis? Is it important, if so why?	
135	What is the revision of codes and who does it?	
136	Do we need to consider the revised code number or still use the old number?	
137	Do we need proper training in coding the diseases? If so, why?	
138	What is the International Classification of Procedures in Medicine?	
139	How many volumes do the Procedures in Medicine book have?	

140	How many chapters are in Volume I of Procedures in Medicine? Name them.	
141	How many chapters are in Volume II of Procedures in Medicine? Name them.	
142	Why do we need to publish every year the morbidity information of the hospital?	
143	Why do we need to publish every year the mortality information of the hospital? What is its significance to have very accurate information?	
144	What is the definition of statistics?	
145	What do you mean by general Statistics? Where do we collect & use them?	
146	What is Health Statistics? Where do we collect and use them?	
147	What is Medical Statistics? Were we using them?	
148	What is Vital Statistics? From where do we collect them?	
149	What do you mean by collection and presentation of statistics?	
150	What do you mean by Analysis and interpretation?	
151	What is the source for collecting statistics in the hospital?	
152	What is the difference between data and information?	
153	Why we present information in a table with different headings?	
154	Whether table form or drawing or diagram form presentation is better? And Why?	
155	When the histogram graphic presentation is used?	
156	When the Frequency polygon is used and why?	
157	When the Frequency curve diagram is used?	
158	When the Line chart or graph is used?	
159	When the Bar diagram is used?	
160	When the Pie or sector diagram is used?	
161	When the Figure or picture diagram is used?	
162	When the Scatter or dot diagram is used?	
163	When the Map or spot map is used?	
164	What do you mean by statistical methods average calculation?	
165	What do you mean by average? When do we use it?	
166	What do you mean by Median? When do we use it?	
167	What is Mode? When do we use it?	
168	What is Range? When do we use it?	
169	What is Standard Deviation? When do we use it?	
170	What is the coefficient of variation? When do we use it?	
171	What is Normal Distribution?	
172	What is a Normal Curve?	
173	What is Measure for Sampling Variability OR Tests of Significance?	
174	What do mean by Standard Error of Mean?	
175	Define Sampling and explain Methods of sampling.	
176	What is the difference between Random, Systematic, stratified and	
177	What are Correlation and Regression?	
178	What is Probability?	
179	What is the Standard Error of Proportion?	
180	What is the Chi-Square Test? Where this test is used?	

181	Explain the uses of statistics.	
182	Why statistics are very useful- elucidate?	
183	What is a hospital's Gross Death Rate? Why do we calculate them?	
184	What is Hospital (Institutional) Net Death Rate? Why do we calculate them?	
185	What is Gross Autopsy Rate? Why do we calculate them?	
186	What is Net Autopsy Rate? Why do we calculate them?	
187	What is Bed Turn Over? How do you calculate? Explain the purpose.	
188	What is Bed Turn Over Interval? How do you calculate the reason?	
189	When we present OP or A/E or IP statistics we need to provide the last one or two year's comparison? How it benefits?	
190	Why do we follow the Age-group recommended by WHO and what benefit it has?	
191	What type of filing systems are used by most of hospitals within India?	
192	How many filing systems are there? Which one is better?	
193	How Medical Records Department is so vital- without MRD or records the hospital cannot function. Do you agree? If yes; why?	
194	Who is a Leader?	
195	What type of vital knowledge he should have to manage the organization efficiently?	
196	How do leaders make their followers trust them?	
197	What Qualities a Leader should possess?	
198	What is Motivation?	
199	How do Managers Motivate staff?	
200	What are the important communication skills required for a good leader?	
201	What is Quality Assurance?	
202	What is a Quality Assurance program?	
203	What is Quality Improvement?	
204	What is Patient Safety?	
205	How to Economize Health Service Expenditure?	
206	How MRO or HIM can help improve the quality of care of a patient?	
207	How MRO /HE can help in saving patient care expenditure?	
208	Who are customers and what type of information is required? This is related to the Release of Hospital Information.	
209	Why HIM need to participate in continuing education?	
210	What are different avenues available to improve the knowledge for MRO? Why should he or she improve or update the knowledge?	
211	Why MRO or HIM should develop an HIM training program in his department? If he does what benefits can be achieved?	
212	What is a Medical Legal case?	
213	How Medical Record can protect the hospital or physician or any staff from medical legal issues?	
214	What is Temporary permission to leave the hospital?	
215	When an Emergency Operation is done to save a life; (when none is there to give consent – what protective measures do you take?	
216	In what type of cases a written consent is needed?	
217	Who is authorized to sign consent? Or anyone can sign consent?	

218	What type of cases comes under the discharge of a patient?	
219	What are the different DAMA, LAMA, and GAMA? This term is used at the time of discharge	
220	When a patient record is considered Personal?	
221	When a patient record is considered Impersonal?	
222	When we can use impersonal records without the permission of a patient?	
223	In what type of personal cases do we need not to take permission of a patient to release the information!?	
224	What special measures are to be taken when the hospital is using electronic health records related to ML issues?	
225	What type of cases is to be informed or reported to the police?	
226	In what type of cases are patients' dead bodies to be handed over only to the police and none?	
227	When is a dead body non-medico-legal case considered to be reported and handed over to the police?	
228	When and what type of inpatient cases the police be informed about?	
229	What is hybrid record?	
230	What is the difference between Curative, Preventive, Promotive, Rehabilitative, and Palliative?	
231	What is the main difference between Primary health centers?	
232	What is the difference between primary, secondary, and tertiary care hospitals?	
233	What are the main medical services in a general hospital?	
234	What are the main specialty services in a super specialty hospital?	
235	What is the difference between Radiology, Radiation therapy, and Chemotherapy?	
236	What are medical allied health services?	
237	What are Paramedical services besides nursing?	
238	What are the auxiliary services in the hospital?	
239	What is the difference between the Nutrition and Dietary dept?	
240	What is the difference between Pharmacology and Pharmacy?	
241	What measures are to be taken when a non-medical legal case is being post-mortem?	
242	What measures to be taken when a medical-legal case is being post-mortem?	
243	What is diplomacy? Why HI Manager should possess?	
244	How HI Manager can be influential in the hospital?	
245	What are the ways to apply to grow from MRO to Sr. MRO or from one income to higher income?	
246	Why the training of his staff be a continuous process?	
247	Why HI Manager should strive hard to uplift the subordinate to a higher position?	
248	How the HI Manager can become indispensable?	
249	What type of public relations should maintain with the medical, nursing, and other heads of department? And Why?	
250	What should be the first priority to make the MRD one of the well-organized and efficiently managed departments in the hospital?	
251	How HI Manager can make the MRD a "Window of the Hospital" so all	

	VIPs and VVIPs visit and appreciate the work? What efforts and measures are to be taken?	
252	Why HI Manager ensure that his department is always trying hard to ensure patient care flow is smooth and efficient?	
253	Why does the HI Manager need to know the Vision, Mission, and goal of the organization? By knowing what improvements he can make?	
254	HI Manager should apply Dr. Mogli's Oath of Ten AUSPICIOUS Commandments that covers all the responsibilities of HI Manager.	
255	Why the Medical Records is called "Mother of Information and it can Make or Break Healthcare institutions?	
256	Why HI Manager should understand that the "MRD is a gold mine and the more you dig – The more you get". ?	
257	Why HI Manager should ensure each and every staff of MRD is well trained in his /her job and well-disciplined to do his /her best.	
258	Why HI managers should maintain good public relations within and outside agencies such as the police, Insurance, and other organizations?.	
259	Why HI Manager should try to innovate new methods to improve the quality of service of his own staff and patient care services.	
260	Why HI Manager should try to be a Master than taking always taking instructions and carrying out the work.?	
261	Why HI Managers should be excellent facilitators to medical education and research team thru will maintained record system?	
262	What is Dr. Mogli's Formulae for calculating Bed-Occupancy Rate with & without Day-Care Cases?	
263	What is Mogli's Ready Reckoner for counting hospital days or Length of Stay (LOS) and how it saves time in the case of computer-calculated (LOS)	
264	Why HIM should be ready to sacrifice for his department?	
265	Why HIM is expected to dedicate to make is a dept. efficient?	
266	What else the HIM should have besides good professional qualifications and experience to be successful?	
267	Why the HIM should be shrewd besides being nice to all?	
268	Why does the HIM keep an excellent rapport with all the departments?	
269	What is the benefit of taking on additional responsibilities?	
270	Why the HIM should expand its department by training more staff and taking on additional responsibilities?	
271	How HIM should improve the knowledge and skills of his employees?	
272	How can save the cost of the hospital and the cost of patient care?	
273	How the HIM can make well organized and efficiently managed HIM department and best in the institution?	
274	What is the source-oriented record arranging?	
275	What is Integrated record arranging?	
276	What is Problem oriented record arrangement?	
277	What is straight numerical filing system?	
278	What is terminal filing system?	
279	What is middle digit filing system?	
280	What is centralized filing system means?	

XXIX Explanation of Medical Specialties

S. No	Specialty	Specialty Focus
1	Allergy & Immunology	Allergic and immunologic diseases and their respirator complications (such as pollen, chemical and food allergies, asthma and AIDS)
2	Anesthesia	Anesthesia or relief of pain during surgery and childbirth, and control of pain due to various causes.
3	Bariatric Surgery	Weight loss surgery –includes a variety of procedures performed on people who are obese, weight loss is achieved by reducing the size of the adjustable gastric band. Gastric bypass surgery- Sleeve gastrectomy.
4	Cardiovascular Disease	Diseases of the heart and blood vessels.
5	Dermatology	Diseases of the skin.
6	Emergency Medicine	Diseases that are acute medical or surgical conditions or injuries that require urgent or immediate care (usually in a hospital emergency room).
7	Endocrinology and Metabolism	Diseases of the internal glands of the body, including diabetes mellitus.
8	Family Practice	All diseases and related total health care of an individual and the family
9	Gastroenterology	Diseases of the digestive tract, including the stomach, bowel, liver and pancreas.
10	General Practice	All diseases and related total health care of an individual and the family
11	Geriatric Medicine	Disease of the elderly.
12	Gynecology	See “Obstetrics and Gynecology.
13	Gynecology Oncology	Cancer diseases of the female reproductive system.
14	Hematology	Disorders of the blood and blood-forming organs (including cancerous disorders of the blood) such as anemia, leukemia and lymphoma (see Oncology, Medical)
15	Infectious Diseases	Infections of all types.
16	Internal Medicine	All diseases and total healthcare of adults, usually 18 years of age and older.
17	Neonatology	Diseases of the newborn child.
18	Nephrology	Diseases of the kidney, including dialysis
19	Neurology	Diseases of the brain, spinal cord, nervous system and related structures.
20	Neurological Surgery	Diseases of the brain, spinal cord, nervous

		system and related structures requiring surgery.
21	Obstetrics and Gynecology	Normal and abnormal pregnancy, diseases of the female reproductive system and fertility disorders.
22	Oncology, Medical	Cancer and disorders of the blood and blood-forming organs (see Hematology)
23	Ophthalmology	Diseases of the eye.
24	Orthopedic Surgery	Diseases of the bones, joints, muscles and tendons.
25	Otorhinolaryngology (Ear, Nose & Throat)	Diseases of the ears, nose, sinuses, throat and upper airway passages.
26	Pathology	Tissues and specimens removed by biopsy and surgery to diagnose normal from diseased tissues and specimens; supervises and interprets laboratory tests on blood, urine and other body fluids.
27	Pediatrics	All diseases and total health care of newborns, infants, children and adolescents.
28	Physical Medicine and Rehabilitation	Diseases with major and minor disabilities requiring restoration of functional ability such as assistance, retaining and recondition of muscles, tendons and extremities for ambulation and other activities of daily living.
29	Plastic Surgery	Diseases and conditions requiring surgical reconstruction for deformity or loss of a body part, or for cosmetic purposes to improve appearance or function.
30	Podiatric Medicine (Podiatry)	Diseases of the foot and ankle as they affect the conditions of the feet.
31	Preventive Medicine	Healthcare and other measures to avoid delay or prevent disease or illness from occurring.
32	Psychiatry	Diseases affecting mental health including diseases of the brain, nervous system and substance abuse of drugs or chemicals.
33	Pulmonary Disease	Diseases of the lung.
34	Radiology	Diagnostic X-ray, ultrasound and other imaging techniques such as Computerized Tomography (CT) and Magnetic Resonance Imaging (MRI).
35	Radiology Nuclear	Diseases requiring use of radioactive isotopes or as an aid in diagnosis and /or therapy.
36	Radiation Oncology	Cancer and other diseases with x-ray therapy, radioactive isotopes and linear accelerator particle radiation.
37	Rheumatology	Diseases of the joints including arthritis and

		autoimmune diseases.
38	Sports Medicine	Diseases and injuries acquired in sports.
39	Surgery, General	Diseases that require surgical operation for diagnosis or treatment.
40	Surgery, Hand	Diseases and injuries of the nerves, tendons, muscles, bones or skin of the hand requiring surgery.
41	Surgery, Thoracic	Diseases of the chest, including lungs, heart, blood vessels and chest wall that require surgical operation for diagnosis and or treatment.
42	Surgery, Vascular	Diseases of the blood vessels that require surgical operation for diagnosis or treatment.
43	Surgery, Colon and Rectal	Diseases of the large intestine (bowel), rectum and anus that require surgical operation for diagnosis or treatment.
44	Surgery, Urology	Diseases of the kidneys, bladder and male reproductive tract that require surgical operation.

XXX**Explanation of Glossary of Terms used in Software structure for EMR**

S. No	Addendum	Text that is added to a document after it has been finalized.
1	Alerts Pop-ups or reminders	An automated warning system such as a clinical alerts, preventive health maintenance, medication interactions, etc.
2	Ambulatory care	Medical care provided on an outpatient basis.
3	Annotator	A system function that allows and explanatory note or diagram to be added to an image.
4	ANSI (American National Standard Institute)	Organization that develops industrial standards, in particular recommendations for languages electronic data exchange (EDI) and peripheral devices.
5	ASP (An application Service Provider (ASP))	ASP is a third party entity that deploys hosts and manages software from a centrally managed host facility (offshore). Applications are delivered over networks (WAN, Internet) on a subscription fee /rental basis. This model is also been referred to as “software-as-a-service”.
6	Audit trail	Security system that tracks a user’s access, deletion or modification of data. The term used in healthcare information security refers to a chronological record of system resources usage. This includes user login, file access, other various activities, and whether any actual or attempted security violations occurred, legitimate or unauthorized.
7	Authentication	The verification of the identity of a person or process.
8	Bandwidth	A data transmission rate; the maximum amount of information (bits/second) that can be transmitted along a channel.
9	Bar code	A printed horizontal strip of vertical bars which represent decimal digits use for identification. Bar codes must be read by a bar code reader.
10	Biometrics	Biometrics are automated methods of recognizing a person based on a physiological characteristic such as fingerprints, retina, voice, etc.
11	Browser	Short for web browser, a software application used to locate and display web pages.
12	Case management	A process of identifying individuals at high risk for problems associated with complex healthcare needs and assessing opportunities to coordinate care to optimize the outcome.
13	Chart of patient / Medical Record	A document, written by the clinician or healthcare provider, which describes the details of patient’s condition including history, physical exam, investigations, progress, diagnosis, treatment including medical and surgical, medication, and the end results.
14	Client Server architecture	Information transmission arrangement, in which a client

		program sends a request to server. When the server receives the request, it disconnects from the client and processes the request. When the request is processed, the server reconnects to the client program and the information is transferred to the client. This usually implies that the server is located on site as opposed to the ASP (Application Server Provider) architecture.
15	Clinical data	A real-time database that consolidates data repository (CDR) from a variety of clinical sources to present a unified rather than to identify a population of patients with common characteristics or to facilitate the management of a specific clinical department.
16	Clinical decision support system (CDDS)	A clinical decision support system (CDSS) is software designed to aid clinicians in decision making by matching individual patient characteristics to computerized knowledge bases for the purpose of generating patient-specific assessment or recommendations.
17	Clinical guidelines protocols	Clinical guidelines are recommendations based on the latest available evidence for the appropriate treatment and care of a patient's condition.
18	Clinical messaging	Communication of clinical information within the electronic medical record to other healthcare personnel.
19	CPG	Clinical practice guidelines.
20	CPM	Clinical performance measures.
	CPOE	Computerized physician order entry or Computerized provider order entry. This order could be investigations, medication or any other orders
21	CPR	Computer patient record. Electronically maintained information about a patient related to his health history, physical exam, investigations, diagnosis, treatment including medical or surgical, progress, end results etc.
22	Current procedural terminology (CPT)	The purpose of CPT codes is to provide a uniform language that accurately describes medical, surgical and diagnosis services.
23	Data conversion	The conversion of data from one software to another
24	Data encryption standard (DES)	Data encryption standard (DES) is a widely-used method of data encryption using private (secret) key.
25	Data integrity	Refers to the validity of data. A condition in which data has not been altered or destroyed in an unauthorized manner.
26	Data mining	The process of analyzing or extracting data from a database to identify patterns or relationships.
27	Data set	A group of data element relevant for a particular use.
28	Data structure	A way to store and organize data in order to facilitate access and modification.
29	Data base	A collection of information organized in such a way that computer program can quickly select
30	Data Base Management	A set of computer programs for organizing the

	System (DBMS)	information in a database. A DBMS supports the structuring of the database in a standard format and provides tools for data input, verification, storage, retrieval, query and manipulation.
31	DIOCOM	Digital imaging of communications in medicine images such as CT scans, MRI and Ultrasound.
32	Dictation	The process by which a physician records his/her notes about a patient. This recording is intended for reproduction in written word (Transcription).
33	Digital signature	Digital signature take the traditional hand-written signature and creates a digital image of the signature to eliminate the need to print and sign documents. This is known as Advanced Electronic Signature.
34	Discrete data	A set of data is said to be discrete if the values belonging to it are distinct and separate, (i.e. they can be counted). Discrete data is non-discrete or unstructured data.
35	Document imaging	Converting paper documents into an electronic format usually through a scanning process.
36	Documentation	The process of recording information.
37	Document Management	Document management's system involving scanning, categorizing and storing vital patient documents.
38	DOQ-IT Doctors office	DOQ-IT is a two-year special study that is designed to improve quality of care, patient safety, and efficiency for services provided to Medicare beneficiaries by promoting the adoption of Electronic Health Records.
39	Quality information	Information Technology (IT) in primary care physician offices.
40	E and M Coding	Documentation guidelines for evaluation and management CPT codes from the Center for Medicare and Medicaid Services (Formerly HCFA).
41	EDI	Electronic data interchange.
42	Electronic Health Record (EHR)	An electronic repository of information re-generic term for all electronic patient care systems. EHR's simply a level of interoperability beyond the capability of an EMR (Electronic Medical Record).
43	Electronic super bill	An electronic encounter form used for coding and billing.
44	Electronic medical record (EMR)	Electronic medical record has a level of sophistication beyond a document management system. An EMR is a provider-based medical record that includes all health documentation for one person covering all services provided within an enterprise.
45	Electronic order entry (EOE)	The function of this program is to move from hand-written and verbal orders to computer based entry.
46	Electronic patient record (EPR)	Same as CPR (Computerized Patient Record).
47	Encryption	Process of converting messages or data into a form that cannot be read without decrypting or deciphering it.

48	e-prescribing	Prescription medicine through an automated data-entry process and transmitting the information to the participating pharmacies.
49	Evidence base medicine (EBM)	Evidence based medicine (EBM) is the integration of research evidence with clinical expertise to aid in the diagnosis and management of patients.
50	Face sheet	Also called summary screen or patient dash-board. This screen includes a summary of patient relevant information on one screen.
51	Fat client	A fat client is a network computer with a hard disc drive as opposed to a thin client which has no disc drive.
52	Firewall	A system designed to prevent unauthorized access to or from a private computer network.
53	Formulary	A listing of prescription drugs established by a particular health plan which includes both brand name and generic drugs. It serves to suggest covered, preferred and lower cost drugs.
54	FTP	File transfer program.
55	(GUI) Graphical User Interface	Abbreviated GUI .A program interface that takes advantage of the computer's graphics capabilities to make the program easier to use. Well-designed graphical user interfaces can help expedite the software learning process.
56	HIE	Health Information Exchange
57	HIT) Health Information Technology	HIT) Health Information Technology
58	Hot Keys	One- or two-keystroke command that switches the user to a different program or function within a software program. Hot keys are useful to expedite movement within a software program.
59	Informatics	The application of computer technology to the management of information.
60	Interoperability	The capability to provide successful communication between end-users across a mixed environment of different domains, networks, facilities and equipment.
61	(IT) Information Technology	The development, installation, and implementation of computer systems and applications.
62	Kiosk	Small computer workstations which allow information to be input. Patient kiosks are used for patients to input information into the system at the medical practice, usually input through a workstation in the waiting room.
63	(LAN) Local Area Network	A LAN supplies networking capability to a group of computers in close proximity to each other such as in an office building, a school, or a home.
64	(LEPR) Longitudinal Patient Record	Longitudinal Patient Record is an EHR that includes all healthcare information from all sources.
65	(OCR) Optical Character Recognition	OCR is recognition of printed or written characters by a computer.
66	(PACS) Picture Archiving	An information system for the storage and distribution

	and Communication System	of digital radiology images over a networked environment that allows for instant access to images and reports.
67	Patient Portal	Allow patients and providers to communicate over the Internet in a secure environment.
68	PHI	Personal Health Information
69	Platform	The basic technology of a computer system's hardware and software that defines how a computer is operated and determines what other kinds of software can be used.
70	Point and Click	Allowing the activation of commands by moving the cursor over certain areas or icons and clicking a pointing device.
71	Point-of-Care	POC refers to the time while with the patient, either bedside or during an encounter.
72	Portal	A website considered as an entry point to other websites. Examples are a Patient Portal.
73	Pull Down Menu	Also called a drop-down menu. These are a menu of commands or options that appears when you select an item with a mouse.
74	Query	The primary mechanism for retrieving information from a database and consists of questions presented to the database in a predefined format.
75	RFID	Radio Frequency Identification
76	Scalable	Refers to how well a hardware or software system can adapt to increased demands.
77	Security	Is the effort to create a secure computing platform, designed so that agents (users or programs) can only perform actions that have been allowed.
78	Speech Recognition	The ability of a computer to understand the spoken word for the purpose of receiving commands and transforming speech into text.
79	Structured Data	Structured data is managed by technology that allows for querying and reporting against predetermined data types and understood relationships.
80	Tablet pc	A tablet pc is a computer shaped in the form of a notebook except it has the capabilities of being written on through the use of digitizing tablet technology or a touch screen. A user can use a stylus and operate the computer without having to have a keyboard or mouse.
81	Template	Often called a library or dictionary. Templates are pre-defined choices of pick-lists designed to streamline the documentation process.
82	Thin Client	A thin client is a network computer without a hard disc drive, as opposed to a fat client which includes a disc drive.
83	Touch Screen	An input device that allows user to interact with the computer by touching the display screen.
84	Unstructured Data	Data which is not structured such as free-text. The

		computer cannot automatically extract properties and relationships from unstructured data.
85	(WAN) Wide Area Network	A computer network that spans a larger geographical area than a LAN (Local Area Network).
86	Web Portal	A website considered as an entry point to other websites.
87	Wireless	A system employing no connecting wire between the transmitting and receiving stations.
88	Workflow	The automation of a process, in whole or part, during which documents, information or tasks are passed from one participant to another for action, according to a set of procedural rules.

XXXI Explanation of E.H.R. Terminology

S.No	Term	Explanation
1	Alerts	Pop-ups or reminders. An automated warning system such as a clinical alerts, preventive health maintenance, medication interactions etc.
2	Ambulatory Care	Medical care provided on an outpatient basis.
3	Annotator	A system function that allows an explanatory note or diagram to be added to an image.
4	ASP Application Service Provider	An Application Service Provider (ASP) is a third party entity that deploys hosts and manages software from a centrally managed host facility (offsite). Applications are delivered over networks (WAN, Internet) on a subscription fee/rental basis. This model is also been referred to as “software-as-a-service”.
5	Audit Trail	Security system that tracks a user’s access, deletion or modification of data. The term used in healthcare information security refers to a chronological record of system resource usage. This includes user login, file access, other various activities, and whether any actual or attempted security violations occurred, legitimate or unauthorized
6	Authentication	The verification of the identity of a person or process.
7	Bandwidth	A printed horizontal strip of vertical bars which represent decimal digits used for identification. Bar codes must be read by a bar code reader.
8	Bar Code	A printed horizontal strip of vertical bars which represent decimal digits used for identification. Bar codes must be read by a bar code reader.
9	Biometrics	Biometrics are automated methods of recognizing a person based on a physiological characteristic such as fingerprints, retina, voice etc.
10	Browser	Short for Web browser, a software application used to locate and display Web pages
11	Case management	A process of identifying individuals at high risk for problems associated with complex health care needs and assessing opportunities to coordinate care to optimize the outcome.
12	Chart	Medical record
13	Chart Note	A document, written by the clinician or provider, which describes the details of a patient’s encounter. Sometimes referred to as a progress note.
14	Client/Server architecture	An information-transmission arrangement, in which a client program sends a request to a server. When the server receives the request, it disconnects from the client and processes the request. When the request is processed, the server reconnects to the client program and the information is transferred to the client. This usually implies that the server is located on site as opposed to the ASP

		(Application Server Provider) architecture.
15	Clinical Data Repository(CDR)	A real-time database that consolidates data from a variety of clinical sources to present a unified view of a single patient. It is optimized to allow clinicians to retrieve data for a single patient rather than to identify a population of patients with common characteristics or to facilitate the management of a specific clinical department.
16	Clinical Decision support system(CDSS)	A clinical decision support system (CDSS) is software designed to aid clinicians in decision making by matching individual patient characteristics to computerized knowledge bases for the purpose of generating patient-specific assessments or recommendations.
17	Clinical Guidelines(Protocols)	Clinical guidelines are recommendations based on the latest available evidence for the appropriate treatment and care of a patient's condition
18	Clinical messaging	Communication of clinical information within the electronic medical record to other healthcare personnel.
19	CPG	Clinical Practice Guidelines
20	CPM	Clinical Performance Measures
21	CPOE	CPOE (Computerized Provider Order Entry) refers to the act of a clinician entering an order for patient services into an information system
22	CPR Computerized Patient Record,	CPR (Computerized Patient Record,Computer-Based Patient Record Electronically maintained information about an individual's lifetime health status and healthcare from all specialties
23	CPT Current Procedural Terminology	CPT (Current Procedural Terminology) The purpose of CPT codes is to provide a uniform language that accurately describes medical, surgical, and diagnostic services.
24	Data conversion	The conversion of data from one software to another.
25	Data Encryption Standard (DES)	Data Encryption Standard (DES) is a widely-used method of data encryption using a private (secret) key.
26	Data Integrity	Refers to the validity of data. A condition in which data has not been altered or destroyed in an unauthorized manner.
27	Data Mining	The process of analyzing or extracting data from a database to identify patterns or relationships.
28	Data Set	A group of data elements relevant for a particular use.
29	Data Structure	A way to store and organize data in order to facilitate access and modifications.
30	Data base	A collection of information organized in such a way that a computer program can quickly select desired pieces of data.
31	Database management system (DBMS)	A set of computer programs for organizing the information in a database. A DBMS supports the structuring of the database in a standard format and provides tools for data input, verification, storage, retrieval, query, and manipulation.
32	DICOM	Digital Imaging and Communications in Medicine

		(DICOM) is a standard to aid the distribution and viewing of medical images, such as CT scans, MRIs, and ultrasound
33	Dictation	The process by which a physician records his/her notes about a patient. This recording is intended for reproduction in written word (Transcription).
34	Digital Signature	Sometimes referred to as Advanced Electronic Signature. Digital signature takes the traditional hand-written signature and creates a digital image of the signature to eliminate the need to print and sign documents.
35	Discrete Data	A set of data is said to be discrete if the values belonging to it are distinct and separate, (i.e. they can be counted). Discrete data is more easily reportable as opposed to non-discrete or unstructured data.
36	Document Imaging	Converting paper documents into an electronic format usually through a scanning process.
37	Documentation	The process of recording information.
38	Document Management	Is a system involving scanning, categorizing and storing vital patient documents?
39	DOQ-IT Doctors Office	DOQ-IT is a two-year special study that is designed to improve quality of care, patient safety, and efficiency for services provided to Medicare beneficiaries by promoting the adoption of EHR's and
40	Quality Information Technology	Information Technology (IT) in primary care physician offices.
41	E & M Coding Evaluation and Management Coding	Documentation guidelines for Evaluation and Management CPT codes from the Center for Medicare and Medicaid Services (formerly HCFA
42	EDI	Electronic Data Interchange
43	EHR Electronic Health Record	An electronic repository of information regarding the health of an individual. It is also a generic term for all electronic patient care systems. EHR's imply a level of interoperability beyond the capability of an EMR (Electronic Medical Record).
44	Electronic Super bill	An electronic encounter form used for coding and billing
45	EMR Electronic Medical Record	Electronic Medical record has a level of sophistication beyond a document management system. An EMR is a provider-based medical record that includes all health documentation for one person covering all services provided within an enterprise.
46	EOE Electronic Order Entry	The function of this program is to move from hand-written and verbal orders to computer-based entry.
47	EPR	EPR (Electronic Patient Record) or a CPR - Computerized Patient Record.
48	Encryption	Process of converting messages or data into a form that cannot be read without decrypting or deciphering it.
49	e-prescribing	Prescribing medication through an automated data-entry process and transmitting the information to participating pharmacies.

50	Evidence based medicine	Evidence-based medicine (EBM) is the integration of best research evidence with clinical expertise to aid in the diagnosis and management of patients.
51	Face Sheet	Also called a Summary Screen or Patient Dashboard. This screen includes a summary of patient relevant information on one screen.
52	Fat Client	A fat client is a network computer with a hard disc drive, as opposed to a thin client which has no disc drive.
53	Firewall	A system designed to prevent unauthorized access to or from a private computer network.
54	Formulary	A listing of prescription drugs established by a particular health plan which includes both Brand name and Generic drugs. It serves to suggest covered, preferred and lower cost drugs.
55	FTP	File Transfer Program

XXXII	Brainstorming brief questions and answers for Oral examination and Interviews for HIM & Health Informatics Professionals
--------------	---

Dr. Mogli's Management Education and Research Centre for Health Excellence
(Dr. Mogli's MERCHE)

(Brainstorming brief questions and answers for Oral examination and Interviews for HIM & Health Informatics Professionals)

Very brief questions and answers for answering in the interview- within minimal time need to express the answer in a few words not to go into detail unless asked for. Restrict your answers to the following unless you have much better information. If the examiners want to have more go into details in a given time; don't exceed-that will be counterproductive.

S. No	Question	Brief Answers
1	What is a Hospital?	A hospital is an institution suitably located, constructed, and organized to treat the sick and injured. Under the guidance of the Administration, the healthcare providers render the service.
2	Difference between OP and IP patients	The outpatient visit clinic gets consultation and treatment advice and doesn't occupy the inpatient bed leaving without staying overnight. He is not under the control or supervision of the hospital. While the inpatient occupies the ward bed and stays overnight. Fully under the supervision of hospital staff.
3	Name five allied-clinical service-related departments	Pathology, Microbiology, Biochemistry, hematology, Serology, Radiology, Radiation Therapy, ECG, EEG, etc.
4	How do you explain in a few words about any service department of the hospital?	For example; the CSSD department; and the Central Sterile Service Department. Mainly to sterile all the instruments used by the healthcare providers and supply adequately to meet the needs of any emergency. The staff working is technically qualified and most under the guidance and supervision of the Nursing Dept.
5	Who are Healthcare providers?	Healthcare providers include medical, nursing, and paramedical those who provide care directly and indirectly to patient care.
6	What is the Medical Record Department (MRD)?	The medical record can be defined by Prof. Dr. Mogli; "as an orderly written document encompassing the patient's ID information, health history, physical examination findings, laboratory reports, treatment including medical and surgical procedure reports and hospital course. When complete, the record should contain sufficient data to justify investigations, diagnosis, treatment, length of stay, results of care, and future course of action".
7	Who heads the medical record department?	A senior person with professional qualifications heads the medical record department.
8	What are the important functions of MRD?	The major functions of the Medical Records Department (MRD) are filing, retrieving, assembling, quantitatively analyzing and technically evaluating deficiencies, assisting physicians with record completion, preservation of records, form design, processing demographic and clinical information, reporting vital statistical information to public

		health, abstracting and coding records, responding to court subpoenas, educating and training health service practitioners about medical record documentation and assisting with and participating in the institutional quality assurance program.
9	Expand and explain briefly the ICD; and its purpose!	International Classification of Diseases. Treated patient records need to be classified according to their diseases and morbidity and mortality reports to be prepared. This information is needed by many within and outside the hospital.
10	Explain briefly the Release of information.	Release information from the patient record or related information to be released only to patients or their authorized personnel and also wherever there is mandatory to release information need to be released. Other than authorized, none is eligible permitted to see or receive information.
11	What is an Incomplete record and who is responsible?	Any medical record that is inaccurate, not timely written, not relevant, incomplete, and the history, physical exam. Progress notes, incomplete investigation reports, improper or no diagnosis, anaesthesia, and operation notes if in surgical cases, incomplete nurses records and not authenticated, not in chronological order or improper sequence, etc. are considered incomplete,
12	What statistics are to be collected and who needs them and why?	The MRD should collect cases treated in the OP, IP, A/C, gender-wise, age-wise, religion and regional-wise, specialty-wise, disease classification, investigation reports, diet supplied, operations performed, morbidity and mortality, and any special report as mandatory to be prepared on a daily basis, monthly and yearly and whenever the authorized requested for information.
13	Difference between MRO and MR Technician and a clerk!	The MRO in addition to academic qualification is professionally qualified and has a PG Diploma, Degree, or Master's degree and has many years of managing medical records experience. MR Technician in addition to academic qualifications has a certificate or diploma in MR field with no or less few years' experience.
14	Why do MR professionals need to learn Anatomy and physiology?	MR profession is dealing with medical records documented by healthcare providers such as medical, nurses, and paramedics, and record language and terms used are medical hence they should have basic knowledge to deal with medical records content its completeness and incompleteness, and any other deficiencies so that proper well maintained MR can be kept to meet the continuity of patient care, assist doctors, hospital, medical education, research, insurance, MLC and information for national and international health organization.
15	Why do MR professionals need to learn bio-statistics?	MR is the mother of information, the data collected need to be properly analyzed, and interpreted into different categories to find out any irregularity, deficiency, excess or abnormal deviating from hospital standards will help an outcome that will help the administration to take appropriate timely action to correct and improve further. With basic bio-statistics knowledge, you are able to help the administration in many ways.
16	Why knowledge of hospital administration is required for MRD	MRD is working in the hospital and the records of sick and injured cases are treated by many specialties and many units are kept in MRD. The MRD is the custodian of records. The MRD is involved all the clinical, nursing, dietary, and all investigation departments, need to

	staff?	have knowledge of their function and relationship with MRD.
17	Where is the MRD to be located in the hospital?	The MRD is the key department responsible for creating OP, A/E, and IP records and maintaining them. To serve patient care efficiently, the location should be easily accessible to three departments. Hence it should be between OP, A/E and IP wards, and preferred in a basement or ground floor.
18	When the MRD staff is not honest in their work- who mainly suffers and why?	It is not only MRD staff everyone working in the hospital especially dealing with patient care has to be honest, results, poor quality of service, missing records, incomplete and not easily accessible records to doctors, delays in every and poor quality of service, ultimately any deficiency will directly affect the patient care. We always think that doctors and nurses are saving lives, they need to be honest and prompt. But if you send any emergency patient record or old patient record when he is re-admitted, the duplication of investigations and the delay caused is due to MRD; in fact, by sending old records and maintaining good records we are also saving the lives of patients.
19	Why MRD to be on 24-hour service?	The hospital works especially in Emergency and inpatient service working 24 hours and 365 days for patient care. The MRD is the custodian of medical records, initiates a record for new patients, and supplies old records to already registered patients. Without records, patients cannot be treated. MRD is the Master service department in the hospital without MR—the hospital cannot provide the service.
20	What is the difference between Lab and Radiology?	Laboratory includes Pathology, Microbiology, Biochemistry, hematology, Serology, blood bank, etc. dealing with testing the blood, urine, and sputum for diagnostic purposes and helps in patient care and diagnosing cancer cases, post-mortem to know the cause of death, etc. Radiology is also an investigation department with X-rays, Ultrasound, CT scans, MRI, etc. are needed for accurate diagnosis to help in treatment.
21	Where Medico-Legal Cases are seen in the hospital?	Most of the ML cases are seen in the hospital A/E department, some may report in OP, some may be found while getting IP treatment and some may be found during the operation process. All these cases need to be registered in the MLC register kept in A/E. Dept.
22	Why daily ward census is collected?	To the accurate statistics of inpatient treated, number of admissions, discharges, transferred-in, and transferred-out, and discharges including deaths.
23	Expand the main purpose of ICD.	International Classification of Diseases was developed by the WHO and used by the entire world, the main purpose is to classify all diseases, to calculate morbidity and mortality information. The morbidity and mortality information will help the hospital administration to regulate the patient care system and the same way the Public Health and national international health organizations.
24	What is Healthcare means?	Healthcare means providing the care to sick and injured by healthcare institutions through primary, secondary, and tertiary to cure, prevent, promote, and palliative care to patients. In brief to make the inhabitants of the nations to be healthy.
25	How HIM professional can play a vital role in	The HIM Professional has to play a vital role in controlling the cost or minimizing the expenses by varied methods. This could be done, not directly but with the collaboration and cooperation of all the

	controlling the cost or minimizing the expenditure?	departments by using the electronic health information as the entire hospital services revolve around patient care. It is advisable the IT department while developing software for the paperless management system should link into information part that each department expenses have an interconnection with the number of patients treated as an outpatient, emergency or as an inpatient. By co-relating, the expenditure of the service departments with the number of patients treated in different areas such as OP, ER, and IP can calculate the unit cost for analysis purposes. Patient care is classified as per the international classification of diseases and procedures will give significant information on the expenditure and by comparison of different services will lead to the right status of expenses for each episode of care.
26	What do you mean my "Missing File"?	Missing file means; all the patient records are filed in a systematic order and all registered records are to be found on the filing shelf except patients getting IP or OP or A/C care or record have been sent to court, or under investigation with the admonition. Other than the record is not found in the file, not gone for treatment is missing.
27	What is the difference between major and minor surgery or operation?	Major surgery is a high risk to the patient and needs expert skills specialists with sophisticated equipment and support in a healthy environment, is done in the OT that meets the above amenities and results can be good or bad. While minor surgery can be performed in OP operation theatre or day-care surgery with minor risks the outcome is positive in most of the cases.
28	Expand ICU and who are treated there by whom?	Intensive Care Unit. Patients who are very serious medically or surgically need 24-hour medical and nursing care with diagnostic and monitoring equipment to bring back serious cases to normal.
29	Where the Lab reports are filed?	All the original reports to be filed in the related patient records ensuring the patient number and name is tallied.
30	Which department does CT Scan?	Radiology Department
31	What is the difference between Radiology and Radiation Therapy?	Radiology is mostly a diagnostic unit with performs X-rays, Ultrasounds, CT scans, or MRIs to get clear or accurate diagnoses that will help the healthcare providers to treat accordingly. Radiation therapy is mostly providing treatment and therapy to cancer patients with primary and secondary cases.
32	What is the difference between Radiation Therapy and Chemotherapy?	Radiation therapy provides treatment and therapy mostly to cancer patients with primary and some secondary cases. Chemotherapy is mainly for secondary cancer cases, and in some cases of primary to prevent secondary as a precaution
33	What type of patients gets Chemotherapy?	Chemotherapy is mainly for secondary cancer cases, and in some cases of primary to prevent secondary as a precaution
34	Where Patient Blood samples are sent and why?	Blood samples are sent to the Laboratory (Pathology, Microbiology, Biochemistry, hematology, and Serology to test and diagnose the disease.
35	Where do dieticians work? What are his /her responsibilities?	Dieticians work in the hospital mainly for inpatients and also in outpatient clinics to assist the clinicians in the treatment of special cases who can be helped through the supply of proper nutrient diet

		according to the condition of patients.
36	Where do you send OPD serious patient?	A serious patient is to be sent to the A/E department.
37	Explain briefly are the MR staff have the same responsibilities as doctors and nurses towards patients.	Yes, 100% because the healthcare providers depend on medical records for care; and the MRD is the custodian who keeps the records. If you delay or don't send the patient life is at risk. The difference, any delay in patient care that affects the patient's doctor is blamed not MRD that way, MRD staff escaping time being.
38	Why should MR staff talk nicely to patients or relatives?	The MRD staff is the first place to contact in OPD IP or ED. Suffering and worried patient/relatives don't come to the hospital for recreation, they need quick help with positive polite, and humble help that will minimize their agony and they gain confidence get the care in the hospital.
39	Give 3 examples of patients whom you call Medico-legal cases!	Accident, (RTA or any accident that person suffers); Homicide (Quarrel between persons and injuring each other); and Suicide (Self shooting to die or hanging or taking poison etc.) are considered MLC.
40	Who do you call a "Day Care Case?"	A Day care patient comes to the hospital, gets care for his minor surgery or therapy or treatment in the "Day care unit" and goes without occupying the IP bed and not staying overnight.
41	When you don't like your boss or MRO, what you will do?	I have to find out carefully why I don't like him; the reason is that I feel that he is biased despite my good work instead of encouraging; or discouraging. You should meet personally; when he is in a good mood, discuss with him and ask where you were doing wrong so that you can improve. If he understands your problem and helps you, then try to adjust and adapt by doing good work. Otherwise, better find another job and leave at the earliest. If you start to go against it, you will spoil your career.
42	You work hard. Other staffs do not work hard. Do you also want to do the same as other staff? If Not, why?	When I came to the job; with the background of my qualifications and experience; and I will do my best to grow in the organization by contributing the best, that will add to my expertise, I will not waste my time thinking of others what they do, that is their will and wish.
43	What is the main difference between Manual and Electronic Medical Records?	Manual records are hard copies that are bulky and filed on filing shelves; the record can be seen by only one person at a time when the record is placed, while E.H.R. is a soft copy on a computer and can be seen by many at any place if they are authorized.
44	What are the main advantages of E.H.R over manual records?	Maintaining and accessing records is much easier in E.H.R. with minimal space, of course with more cost. Maintain with few personnel. There are many advantages of computerized records provided that have taken all measures to access unauthorized personnel.
45	What computer knowledge you need to have to work in MRD?	You need to at least Microsoft Word processing, excel, PowerPoint preparation and presentation, and the basics of using computers and key keyboards to receive and send emails. More knowledge and skills in computer is added advantages as in the future almost all hospitals

		will use paperless or digital records in healthcare institutions.
46	What is the difference between Software and Hardware?	Software is designed and developed by computer experts and a program to meet your needs is installed in the computer that cannot be seen and touched. While hardware is an instrument e.g.. PC. Printer etc. can be seen and touched.
47	What minimum knowledge of computer technology you should acquire?	Microsoft Word processing, Excel, PowerPoint, and some knowledge of programming. And good knowledge and skills using computers, word processing, and so on.
48	Briefly explain the term Confidentiality of M. Records!	Confidentiality means privacy; patient records are not to be seen by other than authorized persons. All the staff of MRD are bound by ethical laws of not divulging or disclosing any information related to the patient to anyone including their own family.
49	Briefly explain the term Security of M. Records!	Medical records to be secured means to be preserved safely in a private place where unauthorized have access to and records to be protected from dust, fire, water, insects, termites, etc. not to be exposed to sun or chemicals etc. e.g. prisoner in jail or lockup.
50	Explain the CHT program (Conducted by (Dr. Mogli's MERCHE –Free education program	The CHT means Certified in Healthcare Technology program includes: Basic Anatomy, Physiology, Medical Terminology, Hosp. Management, Medical Records, and Health Information Management. The CMT means Certified Managerial Trainer/Tutor program includes: Dr. Mogli's Mirror and Dr. Mogli's Health Information Management & Health Informatics Professionals Handbook.
51	How CHT program will improve your career?	I learned Anatomy, Physiology, Medical Terminology, and other subjects that will help in managing medical records and any other healthcare-related work in the hospital or healthcare organization.
52	Expand CMT and explain the CMT program! Conducted by (Dr. Mogli's MERCHE –Free education program	The CMT means Certified Managerial Trainer /Tutor program will improve the knowledge and skills I learn in Healthcare including hospital services, medical records manual and electronic, Management including MLC, QA, Cost, accreditation of hospitals, and project assignment. Learning these subjects and participating in the workshops and conferences conducted is definitely making me a competent and confident Trainer/Tutor.
53	How CMT program will improve your career?	By learning and acquiring a CMT certificate I will be capable of training or tutoring the junior MRD staff and be able to do much better than prior to my training as I feel confident after passing this program.
54	Why do MR professionals learn Medical Terminology?	In the Medical field especially all healthcare professionals use medical language and documents in medical records, to understand and be able to evaluate the content, one should have a Medical Terminology background.
55	Expand ICU, ICCU, NICU	Intensive Care Unit, Intensive Coronary Care Unit, Neonatal Intensive Care Unit.
56	Who are kept t in the Isolation ward?	Mostly infected, serious- and not to be disturbed are kept in secluded rooms.
57	Nurses can discharge a patient?	No, only the admitting doctor or his/her authorized doctor can discharge.
58	A nurse can issue a Medical Certificate?	No, Nurse cannot issue a medical certificate

59	Non-administrator (can issue a medical certificate.	No, generally, only treating doctors to be issued; even the medical director doesn't issue except in special cases issues.
60	What is the Length of Stay and how do you calculate it?	The length of stay of a patient is also known as LOS. Calculated from the date of admission to the date of discharge, but the date of discharge is not counted e.g., the patient admitted on 3-11-2023 and discharged on 15-11-2023. LOS is 12 days.
61	Whether medical records can be given to doctors outside of the MRD for research purposes?	An ideal policy is that no record of the discharged patient go out of MRD except for treatment in OP/A/E or IP or hospital administrative investigation of settlement of insurance, court. Other than these, no record should go out of the MRD. Any study by authorized staff to carry within MRD where special space is allocated for the purpose
62	Child can sign a consent?	No, only their parents or close relatives can only sign. Only adults with a sound mind and closely related can sign
63	Whether a mental disorder person can give consent?	No, Only adults with a sound mind and close relation to the patient can sign.
64	When you receive other hospital inpatient records- what do you do with those records?	Once the healthcare providers have seen if the information is related and important in treating the patient, the record is to be photocopied and the original is to be returned to the concerned hospital. Never try to retain the original records of other hospitals and similarly, never allow your hospital to go to other hospitals.
65	Why does the MRD filing, coding, etc. have to be done on the same day?	The hospital functions 24 hours/365 days a, the old patients can come any time or any day for care, hence their records are available on the filing shelf or MRD. Otherwise, the patient will not have the record and his or her healthcare will be affected badly.
66	How do you deal with staff to get good work from them?	To train all the staff in their respective work, clear written policies and procedures to be observed by staff to perform effectively, and regular monitoring and assisting them in their work. Entire MRD staff including MRO, AMROs. MRTs and all staff should be Punctual. Disciplined and well-behaved to serve the patient and the service dedicatedly.
67	Who benefits from medical records?	"People forget and records remember." The record is valuable to many individuals and groups, patients, physicians, healthcare institutions, research teams, teachers and students, national health agencies, and international health organizations.
68	How medical record is useful to a Patient? OR How it is important to the Patient? OR How it is valuable to the patient?	The Patient: Present and past state of health; Analysis of present illness in terms of diagnosis and prognosis; Consultation opinion; Serve as a reference; Accessibility of old record for a physician to review and analyze previous illness; Quick treatment- reducing the length of stay; Allergies and drug reactions are noted. Previous surgical procedures are recorded and patient education is noted; Protect from over-prescription, unnecessary surgical exploration; and repetition of investigations; Protect from legal action; Assist kith and kin in settling property litigation; Obtaining blood group; Obtaining medical certificates, such as birth, death, insurance, and so forth
69	How MR is useful to Doctors? OR How it is important to the	The Physician: Yields information about previous treatment, reactions, allergies, drugs, investigations, methods of treatment, and results of care' Suggests newer lines of investigations and treatment Evaluation

	Doctor? OR How it is valuable to a Doctor?	of drugs for their clinical effect; Information about the availability of newer drugs for patients; Comparative studies; Medico-legal concerns; Teaching and research
70	How MR is useful to Hospitals? OR How it is important to the Hospital? OR How it is valuable to the Hospital?	The Healthcare Institution: Evaluation of the competency of the medical, nursing, and ancillary staff (Quality Assurance); Justifying the investigations, diagnosis, results of treatment; Medico-legal purpose and defense in malpractice suits; The basis for preparing operating budgets; Administrative control over functional activities The basis for distribution of expenses when computing costs of operation; Statistical data for controlling bed allocation, infection, mortality rates, and length of stay; Planning-additional facilities, staff, equipment, improving medical education and patient care
71	How medical record is useful to Med. Education? OR How it is important to Med. Education? OR How it is valuable to Med. Education?	The Teaching Program: Essential for medical education; Medical students require a lot of practical training besides theoretical classes. Art of history taking, physical examination, writing treatment notes as clinical practice; The teacher is able to teach and guide better with better teaching methods; Students learn the techniques and methods of a teacher in his /her absence; Learn the traits of a teacher through a well-documented record; Care providers, teachers, and students learn from record their mistakes; Records are full of documented facts of life cases, which are better than a written textbook; Undergraduates and postgraduates benefit
72	How medical record is useful to Research? OR How it is important to Research? OR How it is valuable to Research?	The Research Team: Medical Science is dynamic, with new techniques, new methods, , and new medications; Conduct research to meet their own country's needs; Research results are shared by others; Each country has its own health problems; Medical records of present and past help in concurrent, prospective, and retrospective research; Learns simple and better ways to deal with problems; Control health care costs; Find better drugs and techniques for swift, safe, and improved quality care; Improve the quality of services
73	How MR is useful to MLC? OR How it is important to MLC??	Medical Record has entire patient care information rendered by healthcare provided during the hospitalization and well-maintained records will protect e everyone. This is the main document that authenticates what has been done in the hospital for the patient.
74	How MR is useful to Statistics? OR How it is important to Statistics? OR How it is valuable to Statistics?	Medical Record is the "Mother of Information" hence original information can be obtained from the medical record. All types of statistics No. admissions, discharges including deaths, LOS, morbidity and mortality, etc. can be collected and reported. Pphysician, hospital, public health, national and international depend on hospital statistics.
75	How MR is useful to Insurance? OR How it is important to Insurance?	The Insurance company needs to the details of the patient's LOS, diagnosis, surgical procedures, investigations done, and whatever service rendered related to payment; the insurance needs such information, hence, the record is very important.
76	How medical record is useful to Public Health? OR How it	Public Health responsibilities are to control epidemics endemics and infectious diseases and also prevent such occurrences, regularly and promptly any unusual disease or health issues are reported to the

	is important to Public Health? OR How it is valuable to Public Health?	hospital. Through ICD-disease classification; the morbidity and mortality information can be supplied. The Public health collects from all health institutions take suitable timely measures to control the spread of diseases and work the welfare of general health of the population.
77	How medical record is useful to the Nation? OR How it is important to the Nation? OR How it is valuable to the Nation?	National Health Agencies: Depending on the information for the prevention and control of diseases; Allocate budget, staff, and equipment; Plan and construct hospitals and health centers in required locations; Determine the type of health services required to control morbidity & mortality; Monitor all hospitals and health institutions; Exchange expertise from other nations; Collaborate with international organizations; Develop medical and allied health service education.
78	How medical records are useful to internationals? OR How it is important to International? OR How it is valuable to International?	International Health organizations: Responsible for assisting and guiding nations; Controlling infectious diseases and epidemics; Providing assistance to needy nations by accepting from surplus states; Exchanging experts and specialists to Send medical supplies and other items to needy countries; Need reliable information from all countries to achieve global healthier living.
79	Why should we preserve medical records safely?	Records should be preserved safely to ensure the records are not used unauthorized and are protected from tampering, insects, termites, fire, electric wires, food, heat, water, etc., to ensure the records and their content are intact for patient care and other purposes.
80	What is the difference between active and inactive records?	Active records are the latest records, and records of those patients are regularly visit the hospital and are filed in daily active areas. And also those records that are needed for patient care, administration, insurance, court, or for medical education and research. Inactive records are those records that are filed separately away from active areas due to a shortage of space till the mandatory retention period.
81	Who is Authorized to receive Medical Records and information?	Only the adult patient, or his close relatives, or anyone authorized by the adult patient. The Govt. The court, another hospital if the patient is getting treatment there, Hospital investigation staff with the permission of the treating doctor can get.
82	What is Personal Record in MLC terms?	A personal record in MLC terms, a record with name or photo, and number, information in the record is confidential and cannot be released or divulged to anyone without the patient's permission. The exception to the rule is if the patient is MLC. Birth or death, and suffering with notifiable infectious disease; can be released without the permission of a patient.
83	What is an Impersonal Record in MLC terms?	Impersonal records when a name or number is not used, the record becomes impersonal and can be used for research without permission of a patient.
84	How do you define Medico-Legal Cases?	All accidental, homicidal, and suicidal are considered MLC. And also Snake or poisonous insect bites., brought dead cases also considered MLCs.
85	Whom the MLC dead body to be given?	Only to Police and not to be given to relatives or anyone. Police decides and disposes after their examination is conducted.
86	Do you need to	Yes, Whenever any patient is examined means, the responsibility is

	maintain a register for “Brought Dead Cases”.	initiated and needs to be recorded. How one can say without examining a patient –Dead? Hence a separate Brought Dead cases register is to be maintained.
87	When an IP is found to be MLC where do you register?	In central MLC register is usually maintained in the A/E department which works 24/365 days and most of the MLCs are reported there.
88	What is Mortality?	Information of deaths.
89	What is Morbidity?	Information on diseases.
90	What does a Medical Audit mean and how it is done? OR Purpose of Medical Audit?	The purpose medical audit is mostly done by doctors and is similar to an Accounts audit; but there the cash registers, invoice, income, and expenditures are checked each expense is supported by a proper invoice, and each revenue is properly entered into cash or income books or bank. In the case of medical audit, the medical records and related documents are used for medical audit by other than treating doctors to ensure the care is in accordance with the standards or criteria of the hospital or international standards.
91	What is Patient Care evaluation?	This is also similar to a medical audit. In this case, all the healthcare providers and investigation diagnostic and therapeutic professionals can be involved.
92	Who conduct a medical audit?	Medical staff and all healthcare providers of other departments conduct medical audit records of other departments and theirs.
93	Who stays 24 hours with the ICU patients? And why?	Nurses stay 24 hours with ICU patients and care for the patient under the guidance and supervision of doctors who visit frequently but do not stay 24 hours. The patient being very serious, needs lifesaving care and treatment continuously under close supervision.
94	Who is responsible for ward IP records?	Nursing staff. The treating doctor is responsible for documenting the accurately, timely, relevantly, and completely the IP record.
95	What is Consent?	A written document especially designed for the purpose of the hospital to be signed by the adult mind patient or relatives for general treatment or special medical, surgical rehabilitative, or diagnostic investigations, etc.
96	Who is authorized to give consent?	A sound mind adult patient or his close relative can give consent in a prescribed form of the hospital
97	How many types of consent are there?	There are numerous but mainly classified into two: one is general consent taken by the OP or A/E admitting office for general care including minor surgical procedures, diagnostic investigations, etc. And special consent for surgical or any risk or high-risk procedures taken by the treating surgeon or treating healthcare provider.
98	Who should obtain consent signatures for surgery?	Only the treating surgeon or treating healthcare provider is responsible for obtaining consent. A nurse or any other person might help the responsibility is on the treating surgeon.
99	What is informed consent?	Simply the signature of a patient or relative cannot be taken, need to explain in detail the prognosis, advantages, and risks involved clearly in their speaking language if the patient or relative doesn't understand the English Language.
100	Completion of the MR by the admitting physician is clerical or clinical?	Generally, few doctors think that patient care is clinical and completing the record is clinical work, which they try to avoid. In reality, the completion of a record is more than clinical; it is an evident document to prove the work done by a doctor. It is not clerical but clinical.

101	What is a Unit record?	The Unit record means “One patient, One number and one record” for all the OP, A/E, and IP cases so that the information of varied services and specialties received and diagnostic and related documents and information is available in chronological order and retained for a long period. This is almost an “Interoperable manual record of computer terms” in one hospital
102	What is the difference between A/C, ER, ED, Casualty?	All the four are same, earlier years the term casualty was popularly used by all the nations. After second world war the British termed casualty cases as Accident and Emergency, and American use Emergency Record (ER) or Emergency Department (ED).
103	Why the hospitals need to retain OP and IP patient records after treatment?	Medical records are maintained primarily for patient continue care besides other reasons, as long as patient is active and 3 more year for OP and after discharge 5 year for IP records to meet the need of patient care, medico-legal and insurance issues, medical education and research. In teaching institution if space and other facilities are available the important records can be kept much longer period.
104	How long, Birth, Death registers to be kept?	Preferred for permanently.
105	What procedure you adopt to destroy old records?	Once the mandatory retention of records period is over, the records need to be destroyed by various methods, by burning and destroying. Prior to the destroying of records each record number and name and other details of service or specialty is to be registered in a destruction register with the assurance that no active record has been mixed in the destruction list, to be signed by one of the administrative officers, MRO, and the person who is destroying the records to ensure that no record is left from destruction. The same register to be preserved safely by MRD.
106	Is absconded patient to be considered discharged?	Yes, considered Discharged patient.
107	When a child is absconded from hospital-what measures are taken in the hospital?	Inform the patient parents immediately, if not reached home, inform police, and other authorized persons. In the record-when the patient found missing form ward that time to be recorded, inform treating doctor, a note to be recorded that patient absconded from the hospital; date and time. And also record that the same was communicated to relatives and in other cases police. The treating doctor, nurse on duty and administrator to sign on the record,
108	Can you stop a patient wants to go or relatives want to take patient against medical advice?	Cannot stop a patient or relatives want to take against medical advice. The hospital staff especially, the doctor and nurse can explain the consequence of health, the responsibility lies on patient or relatives and not by the hospital, by taking prematurely against medical advice; signature of person taking should sign the prescribed form for Going against medical advice and doctor, nurse and administrator can sign in the record the incidence.
109	When a patient or relatives refuse to sign for taking the patient against	The hospital staff especially. The treating doctor, duty nurse, and the administrator have to make a statement in the record stating that the patient was informed of the consequences of deteriorating health and the risk involved in taking the patent prematurely, but the patient or

	medical advice and takes away the patient- what measures are taken?	relative was not in a mood of listening and forcibly taken or left the hospital without signing the “Going against medical advice form”. All three members are to sign the record that will protect them from legal issues.
110	To organize a new MRD what are five main requirements to carry on the work.	Selection of suitable space needed for MRD; b. Recruiting of staff for MRD, Getting the required equipment and supplies; Development medical record forms or needed computers; Preparing Medical Record Policies and Procedures, Training of hospital staff on MR policies and procedures and their responsibility in maintaining good and complete records; and training of MRD staff to ensure the MRD function effectively.
111	Name Five important units / different sections of MRD?	The MRD must have 4 major sections headed by Asst. MROs or Sr. MRTs, e.g., OP, A/E including Day-care, IP, and Administration. Within the MRD department; Five important units that are MR filing and retrieving area, Record assembling, Deficiency check, Completion of records, collection of discharged records statistics; ICD coding and indexing, and statistics, and administrative section to oversee the needs of all the units including infrastructure, staff issues.
112	Why do you need a qualified MR Technician to work in MRD?	Most of the work in the MRD is fully technical dealing with medical records written by highly qualified medical staff and nursing and other paramedics, to understand the content of the records to evaluate their accuracy, completeness and coding the records as per the ICD of WHO or any other recommended by the authorities need qualified and experienced MRTs for carrying efficient work in MRD.
113	Do you agree Dr. Mogli’s states that the “Medical Records is Mother of Information, can Make or Break the healthcare institution”. Yes or No, If Yes, how?	Yes, I agree, with maintaining comprehensive records of OP, A/E, and IP, the MRD can contribute in many ways e.g., the quantity and quality of work done by the clinical units, proper utilization of beds, through the comprehensive healthcare information, can be assessed the good and bad work by healthcare providers, and the information the cost-analysis can be done to control the expenses and ensure the records meet the needs of continuity of evidence-based patient care, medical education, research, medico-legal, insurance and supply of authorized authorities the morbidity and mortality information. If all these are not properly done the institution collapse and be involved in legal and financial litigation.
114	Can one hospital MR can be sent to another hospital; If yes when & why?	Yes, in a very special case; the hospital staffs carry the next place of consultation or treatment and bring back to the hospital. In other cases, the entire record is needed to treat the patient, in such cases, the photocopy of entire records can be sent. Otherwise, the original record not to be sent.
115	When Court retained a MR of ML case? How are you treating the patient when he comes to hospital?	It would be good practice, when you send an MR to court, to better keep a photocopy of the patient record that will help to treat the patient when the record is retained by the court. If a patient with medico-legal problems, need to inform the police and treat the patient
116	MRD statistics can help in quality assurance unit and	Statistics of varied information on the quantity and quality of services rendered in OP, A/E, Daycare, and IP, with comprehensive analysis of information of different units will be of immense value in the quality

	how?	assurance program to take corrective action for deficiencies.
117	MRD statistics can help in Cost Control of the hospital and how?	Statistics of varied information on the quantity and quality of services rendered in OP, A/E, Day-care, and IP, with comprehensive analysis of information of different units will be of immense value in the Control of the hospital cost by developing unit cost methods for each service that will definitely help in analyzing the wastage or misuse of facilities, etc. The outcome will help in taking corrective measures to control the cost.
118	Write Five main benefits of computer?	Save space, record can be seen anywhere, many can see the record at the same time, standard way of presentation, easy to understand as doctors scribbling writing is not there, , can be secured swiftly
119	What are Five drawbacks of .E.H.R?	Maintaining confidentiality is difficult, Security of records also problem,, due to virus –chances of corrupting data, illegal access to records, expensive , depend on computers and electricity,
120	Why a computer dept, . is needed when the hospital using E.H.R?	Yes, very much, to ensure that patient care is not affected round the clock, any problem to correct and ensure all the computer systems are functioning well.
121	What is Pharmacy?	<i>Pharmacy</i> is the health profession that links the health sciences with the chemical sciences, and it is charged with ensuring the safe and effective use of pharmaceutical drugs.
122	Who is pharmacist?	Pharmacist is highly trained skilled healthcare professional who perform various roles to ensure optimal health outcomes for their patients. Many pharmacists besides practicing do have their own pharmacy business.
123	Who are Clinical Pharmacists?	Clinical pharmacists care for patients in all health care settings especially inside hospitals and clinics and they often collaborate with physicians and other healthcare professionals to improve pharmaceutical care.
124	Who is Dietician?	A dietician is a person with recognition qualification in nutrition and dietetics who applies the science of nutrition in the feeding and education of groups of people and individuals in health and disease.
125	What is Nutrition?	<i>Nutrition</i> (also called <i>nourishment</i> or <i>aliment</i>) is the provision, to cells and organisms, of the materials necessary in the form of food to support life. Many common health problems can be prevented or alleviated with a healthy diet
126	Who is a Social Worker?	A Social worker is a professional with the knowledge of social sciences to deal with social problems of patients and help doctors.
127	What is Primary Health Care?	Beside an appropriate treatment of common diseases and injuries, provision of essential drugs, maternal treatment of common diseases and injuries, provision of essential drugs, maternal and child health, and prevention and control locally endemic diseases and immunization, it should also include at least education of the community on prevalent health problems and methods of preventing them, promotion of proper nutrition, safe water and sanitation.
128	What is Nosocomial or Hospital Acquired Infection?	Nosocomial or Hospital Acquired Infection is acquired during hospitalization or after discharge hospital. The cause of this Nosocomial or hospital acquired infection is microbes of bacteria are common such as E.coli, Klebsiella, Staphylococcus Aureus etc, and

		also including viral reckettsial fungal and protozoal infections. There are two sources of infections 1. Endogenous Infection; 2. Exogenous Infection
129	What is Allied Healthcare profession?	The allied healthcare professionals, to assist the busy physician and allow him to deal with complicated cases which need medical background while other allied professional can contribute greatly to patient care service directly or indirectly with their specialties.
130	What is physical therapy?	Physical therapy is the profession that uses knowledge and skills, in rendering care for individuals, disabled by disease and injury, the primary focus is on the functional restoration, of patients, affected with skeletal neuromuscular, cardiovascular and pulmonary disorders
131	What is the role of Occupation al therapist?	Occupational therapy as a profession concerned with promoting health and well-being through occupation. Occupational therapists address the question, “Why does this person have difficulties in his or her daily activities (or occupations), and what can we adapt to make it possible for him or her to manage better to impact his or her health and well-being?”
132	What is Optometry?	<i>Optometry</i> is a health care profession concerned with eyes and related structures, as well as vision, visual systems, and vision information processing in humans
133	What is Audiometric?	Audiometric is a branch of audiology and the science of measuring hearing acuity for variations in sound intensity and pitch and for tonal purity, involving thresholds and differing frequencies. Audiometric tests determine a patient’s hearing levels with the help of audiometer
134	What purpose Audiometric tests are used?	Audiometric tests are used to diagnose hearing loss or disease of the ear, with the use of Audiogram. Hence, the Audiometric can be defined as the quantity assessment of a person’s hearing ability, especially by means of an audiometer.
135	What is the Role of Biomedical Engineering?	The Biomedical Engineering department has become an essential part of a hospital for managing, designing and maintaining medical devices required for diagnosis, treatment, and monitoring of patients
136	What is the purpose of Biomedical equipment management?	The Biomedical equipment management professional is to ensure that equipment and systems used in patient care are operational, safe, and properly configured to meet the mission of the healthcare; that the equipment is used in an effective way consistent with the highest standards of care.
137	What is the function of CSSD?	The Central Sterile, Supply Department (CSSD) is responsible for decontamination, inspection, packing and sterilization of reusable materials e.g. operation theater sets of trays for diagnostic and therapeutic purposes. The CSSD provides sterile supplies and equipment required by the Operation Theaters, Intensive Care Units, Inpatient Wards Accident & Emergency, and Outpatient Services that renders patient care thereby it prevents the hospital-acquired infection. The responsibility of managing this unit is generally given to the nursing staff because of its vital role in controlling the infection.
138	What are current problems of Healthcare industry?	Current Problems: Healthcare industry is plagued by rising costs and public pressure to contain expenditures. Patients and even healthcare providers are not satisfied with the escalating cost. The increased costs could be attributed to manifold reasons including inefficiency,

		inflation, and duplication. This has necessitated for policymakers to focus on health coverage of the entire population with limited finance by applying various methods to economizing the cost and this is a global phenomenon. Due to this trend most of the Medical, Nursing, Paramedical, and Hospital Administrative colleges have incorporated healthcare economics and cost subjects in their educational syllabus and course content. This is the arena for HIM professionals by embracing additional challenges coupled with emerging technology that can work and prove that his profession can be a cog of the vital wheel of the hospital management that leads to HIM recognition.
139	What is the role of public relation in the hospital?	<i>Public relations (PR)</i> are the practice of managing the communication between the hospital or organization and its publics and especially health related topics.
140	What is the role of Hospital Patient Care Relationship Coordinator (HPCRC)?	This unique position “Hospital Patient Care Relationship Coordinator (HPCRC)”: is one of the allied healthcare professionals with paramedics related educational background, to co-ordinate and liaison between the medical, nursing, other allied healthcare services, administration, finance, transportation, etc., related to the patient care, and the patient, relatives or attendants of patients, referred institution and public. To ensure that patient healthcare issues are dealt with promptly and judiciously to the utmost satisfaction of all.
141	What is the main job of HPCRC’s?	HPCRC's job is to oversee the patient care services from the time of patient’s registration or even earlier from the date of booking, and during the patient’s journey in the hospital as an emergency, outpatient, or inpatient till his/her discharge from the hospital
142	Definition of s Secretary?	Dr Mogli defines a secretary “as a person qualified to hold secretarial responsibilities, with positive mindset and behavior that enable to perform effectively as an executive assistant whose first characteristics is to maintain strict confidentiality of information maintained by her/him, who possesses a mastery of office skills, demonstrates the ability to assume responsibility without direct supervision, exercises initiative and judgment, and makes decisions within the scope of assigned authority and is a spokesperson of the office or clinic or organization whose message is truly valid and represents the organization. In real sense is the cog of the wheel, his actions can be admirable or harmful
143	What is Ayurveda?	Ayurveda aims to keep structural and functional entities in a state of equilibrium, which signifies good health (Swasthya).
144	What is preventive aspect of Ayurveda?	The preventive aspect of Ayurveda is called Svasth-Vritta and includes personal hygiene, daily and seasonal regimens, appropriate social behavior, and use of materials & practices for healthy aging and prevention of premature loss of health attributes. The curative treatment consists of Aushadhi (drugs), Ahara (diet), and Vihara (lifestyle).
145	What is Unani Medicine?	Unani medicine, also called Unani Tibb, Arabian medicine, or Islamic medicine, is a traditional system of healing and health maintenance observed in South Asia. The Unani system of medicine includes the Science of Maintaining Health (Hifzän-i Sihhat). Means Safe Health.
146	What type of diseases the Unani	The thrust areas of Unani medicine include skin diseases, liver disorders, non-communicable diseases including lifestyle diseases,

	medicine can treat?	metabolic & geriatric diseases and menstrual/ gynecological disorders etc.
147	What is Siddha system of Medicine?	The Siddha system of Medicine is a traditional medical system, which provides 'Holistic Health'. The system provides preventive, promotive, curative, rejuvenating, and rehabilitative health care with a scientific and holistic approach.
148	What is Yoga?	The word "Yoga" comes from the Sanskrit word "Yuj" which means "to unite or integrate." Yoga is about the union of a person's own consciousness and the universal consciousness. It is primarily a way of life, first propounded by Maharshi Patanjali in systematic form Yogsutra.
149	What are widely practiced Yoga Sadhanas (Practices)?	The widely practiced Yoga Sadhanas (Practices) are: Yama, Niyama, Asana, Pranayama, Pratyahara, Dharana, Dhyana (Meditation), Samadhi /Samyama, Bandhas & Mudras, Shat-karmas, Yukta-ahara, Yukta karma, Mantra japa, etc.
150	What is Naturopathy?	Naturopathy is rooted in the healing wisdom of many cultures and times based on principal of natural healing. The principles and practices of Naturopathy are integrated in the lifestyle if the people observe living close to nature. Naturopathy is a cost-effective drugless, non-invasive therapy involving the use of natural materials for health care and healthy living.
151	What is Homeopathy?	"Homoeopathy" was introduced as a scientific system of drug therapeutics by a German Physician, Dr. Christian Frederick Samuel Hahnemann in 1805. While translating a medical treatise by Scottish physician and chemist, William Cullen, from English to German, in 1790, he came across a footnote under Cinchona that attributed its fever curing property to the astringent (decongestant) qualities of the drug.
152	What is Sowa-Rig-pa (Amchi Medicine)?	"Sowa-Rig-pa", commonly known as Amchi medicine, is the traditional medicine of many parts of the Himalayan region used mainly by the Tribal and boot people. Sowa-Rig-pa (BodhKyi) means 'science of healing' and the practitioners of this medicine are known as Amchi.`
153	What are the minimum standards for maintaining medical records?	The hospital shall maintain an adequate medical record for every individual who is evaluated or treated as an inpatient, outpatient, or emergency patient, which shall be documented accurately with all significant clinical and other information in a timely manner.
154	Why medical records to be readily accessible?	The record shall be readily accessible for providing continuing patient care by medical and other staff, and permit retrieval of information for medical education, research, quality assurance activities and statistical data.
155	What a medical record should contain to be complete record?	The patient medical files shall contain sufficient information to identify the patient, support the diagnosis, justify the treatment, and document the course of care and end results accurately and completely..
156	How investigation reports to be kept in the medical record?	Laboratory and other investigation test requests and reports in original with authentication shall be incorporated in the patient file. Reports form approved organizations outside the hospital may also be included, identifying such source in the record
157	What information	There shall be an operative report including preoperative and

	the operation record should have and when to be completed?	postoperative diagnosis, the operation performed, with details of findings and techniques used the tissue removed, and the material sent to histopathology, to be recorded in the patient's file immediately or within 24 hours after the operation.
158	What procedure to be observed in case of organ or tissue obtained for transplantation?	When an organ or a tissue is obtained for transplantation, medical records of alive or deceased donor and recipient of transplants are to be completed, promptly, by authorized staff, with all pertinent information, date and time of removal of transplants and so forth with taking appropriate consent from the donor and the recipient.
159	Who should have discharge summary; what it should contain?	Each and every hospitalized patient shall have a discharge summary which includes a brief history, physical findings, significant investigation findings, provisional, final, and associated diagnoses as well as the course of treatment including surgical procedures, condition of the patient on discharge and any instructions given to the patient or family as pertinent.
160	In what inpatient cases discharge summary is not required?	In the case of patients with problems of a minor nature who require less than 48 hours of hospitalization and in the case of normal newborn infants and uncomplicated obstetrical deliveries, discharge summaries can be substituted by written final progress notes.
161	What procedure to be observed in death cases?	In the event of death, a final note in the progress record shall be made giving the events leading to death. All death charts, regardless of length of stay, require a full clinical resume.
162	What procedure to be followed in case of autopsy or post-mortem?	If an autopsy is performed, provisional anatomic diagnosis is recorded in the medical record within three days and completed report is made within 30 days.
163	How medical record document should be?	Medical record documents shall be treated as confidential, secure, current, authenticated legible, accurate and complete.
164	Who owns the medical record? Or Whose property?	The medical record is the property of the hospital and is maintained for the benefit of the patient, the medical staff, and the hospital.
165	What type of records to be stored separately?	In case of psychiatric illness, AIDS, STD, etc., in order to preserve the privacy and protect the confidentiality of information, it is necessary to store these records separately with special care. If MRD is meticulously observing strict security and confidentiality of all records and under able supervisor control of records, than no need to file separately. All records can be in one central place.
166	What type of abbreviations is permitted to use in medical records?	Medical abbreviations and symbols which have only one meaning approved by a responsible authority are to be used in the medical record.
167	What type of statistics are to obtainable through Medical Records?	Basic statistical information shall be readily obtainable through the Medical Record Department, the type and amount to be determined by the needs of the medical staff, the hospital, and regional, national, and international health organization.
168	How often verification or check of records to be	A periodic verification check at least every quarterly shall be carried out for ascertain the accuracy, consistency, and uniformity of data recorded and coded for indexes

	carried out?	
169	Why the MRD should participate in the Quality Assurance program?	The MRD should participate in the hospital wide quality assurance program for evaluation of patient records for its accuracy, relevance, timeliness and completeness to ensure care render in accordance with established standards or criteria.
170	Where the patient investigation original reports to be kept?	Request and reports (in original) of all investigations performed by laboratories (e.g., Pathology, Biochemistry, and Microbiology) are properly identified, authenticated, and made part of the medical record.
171	Why the MRD need medical record policies and procedures?	There shall be medical record policies and procedures which clearly define the scope of services within the hospital and department to provide the guidelines to healthcare providers and MRD staff.
172	How often the MR policies should be reviewed and whose approval is needed?	The policies shall be reviewed at a least annually and revised as necessary with approval by the Ministry of Health, the hospital administration, and medical staff as appropriate.
173	What is the purpose of medical records?	The purposes of the medical record are to provide communication, between the healthcare providers; serve as reference; document evidence, provide information for various purposes; besides continuous patient care, useful of medical education, research, MLC, Insurance and public health.
174	Why registration of birth, death and foetal death to be maintained?	The hospital should maintain three separate registers for births, deaths and fetal deaths. Necessary entries for live births, stillbirths, fetal deaths and deaths, as they occur must be made in respective registers as per the rules laid down by the Government.
175	Do we need to register New-born (Live Birth) to be maintained?	Newborn should be registered as a new patient baby girl of (BG/O) or baby boy (BB/O) followed by mother name and a new hospital number to be allocated with a separate patient file created. However, a cross reference of mother's hospital number in the child's file and child's number in the mother's file should be entered. Similarly, cross reference entries have to be made in mother's and child's patient master index cards.
176	Do r Multiple Births (Twins/Triplets to be registered?	Each live-born child must be registered as a new patient (BG1/O or BB2/O followed by mother name) and a new file to be created. The first-born child will get the first hospital number.
177	What procedure for Still-born (Dead Born) cases?	Stillborn (Dead Born) cases, the birth notification issued by the doctor should form a record. However, no patient file should be opened and no hospital number to be allocated.
178	What is Fetal Death and what procedure to be observed to register?	Fetal Death prior to the expulsion or extraction from its mother of a product of conception, irrespective of the duration of the pregnancy; the death is indicated by the fact that after such separation, the fetus does not breath or show any other evidence of life such as beating of heart, pulsation of umbilical cord, or definite movement of voluntary muscles. There should be a separate fetal death register to record all fetal deaths.
179	What procedure to be observed in registering Cancer	A central cancer register must be maintained in each hospital. All proved malignant cases as recommended by ICD (WHO) should be registered and a separate cancer register number to be allocated in the

	cases?	patient file in addition to the hospital number. All the cancer cases registered will have to be classified in accordance with the recommendation made by the national cancer center. Refer the guidelines provided by the national cancer center for more details.
180	Is the responsibility of each department to treatment of infectious diseases?	It is the responsibility of each department to notify the admission and treatment of infectious disease cases in the prescribed form recommended by the hospital to the public health department. Refer the guidelines provided by the public health department for more details.
181	What OP statistics to be prepared?	<p>Statistics of new, follow-up and total cases; according to sex (male, female and children), nationality. Statistics according to service/unit, geographical distribution, age group—less than 1, 1 to 4, 5 to 14, 15 to 24, 25 to 34, 35 to 44, 45 to 54, 55 to 64, 65 to 74, 75 and above.</p> <p>Number of investigations carried out, e.g. pathology, microbiology, biochemistry, radiology, ECG, EEG, and other departments (specify). Outpatient disease and operation statistics have to be prepared</p>
182	What Emergency service Statistics to be prepared?	Total number of cases seen in the emergency service and classification according to sex (male, female and children), number of cases referred to OPD, PHC. Number of cases admitted in the hospital and number of medico-legal cases treated (accidental, suicidal, homicidal, traffic accidents, burn and poison cases).
183	What Inpatient service Statistics to be prepared?	<p>Daily census reports of admitted and discharged cases of general and private wards.</p> <p>Discharges according to service by nationality, sex (male, female and children), age group—less than 1, 1 to 4, 5 to 14, 15 to 24, 25 to 34, 35 to 44, 45 to 54, 55 to 64, 65 to 74, 75 and above, discharge results—alive, dead, death classification—less than 48 hours and more than 48 hours.</p> <p><i>Bed utilization</i> (general and private separately): Bed days, bed occupied and bed occupancy rate.</p> <p>Inpatient diagnosis and operation classification statistics have to be calculated.</p> <p>Number of consultations received and rendered.</p> <p>Surgical procedures according to different services: number of elective operations, emergency operations, minor, intermediate and major operations performed.</p> <p><i>Investigations:</i> Number of pathology, microbiology, biochemistry, radiology, ECG, EEG, and other tests conducted.</p> <p><i>Deliveries conducted:</i> Number of normal and abnormal deliveries.</p> <p><i>Births:</i> Number of live births, mature, premature and stillbirths.</p> <p><i>Death statistics:</i> Should be presented in the following statements: S no, name, hospital no, service, nationality, age, sex, duration – 48 hours, +48 hours, cause of death, remarks</p>
184	What Administrative Statistics to be prepared?	<p>Number of medical personnel; seniors and juniors according to specialty.</p> <p>Number of dentists; seniors and juniors.</p> <p>Number of nursing personnel—according to cadre and student nurses if any.</p>

		<p>Number of paramedical workers including laboratory, radiology, dietary, pharmacy, medical social service, medical records and others.</p> <p><i>Other auxiliary services:</i> Engineering, civil, electrical, maintenance, laundry, and house keeping.</p> <p>Administrative staff including director, deputy directors, office unit heads, clerical and lower grade staff.</p> <p>Expenditure relating to drugs, diet, equipment, furniture, forms and stationery. Buildings including water, electricity, personnel, linen (patient uniform, staff uniform), transportation, communication, maintenance, training personnel and research.</p> <p>Income from patients and other sources.</p> <p>Other information pertaining to administration.</p>
185	Who should maintain of Old Records?	All old medical records including patient files, registers, index cards, etc. relating directly to the patient care have to be maintained by the MRD
186	What method is observed in maintaining Old Records?	The medical record department should collect the old registers and files from all the wards, emergency department, OT, outpatient clinics, etc. and classify them properly by giving "old record register number". The old files, registers, index cards are to be preserved in a place earmarked for a prescribed period. Later, the records have to be destroyed as per the rules laid down for "record retention".
187	Why retention of medical record schedule and how long records to be retained?	Because of pressure on space for filing of medical records a retention schedule for keeping records has to be observed as per the MOH for hospital guidance. However, those hospitals which are carrying out teaching/research programs can keep the records longer than the prescribed period provided they have adequate space and facilities.
188	What procedure to be observed to preserve medical records safely?	Special care has to be taken to preserve the records. Records have to be protected from insect termites, prevent records from being exposed to hot and dry climate. They should be filed in a dust free and protected from water, dampness and fire. Adequate fire extinguishers to be provided at all required places.
189	How often a medical audit to be held and who should participate?	Every month a statistical/medical care review meeting to be held, attended by all the clinical and Para clinical staff-members of the hospital to discuss important and interesting cases including monthly deaths for further improving the quality of medical care and thereby serve as a medical audit.
190	Who should participate in the Medical Record Committee?	Medical Superintendent or hospital Director as the chairman and Medical Record Officer as the secretary and Heads of Departments as members meet periodically to review and evaluate the quality of medical care and ensure proper maintenance of medical records by MRD.
191	What is Problem Oriented Medical Record (POMR) and who introduced?	Problem-Oriented Medical Record (POMR): This format, designed by Dr. Lawrence Weed several decades ago, places the major emphasis on specific patient problems. On admission to any health service or institution, each problem is listed and numbered, and from that time on all physician's orders, progress notes, laboratory tests, treatment reports, and so on, are correspondingly numbered and referenced to one of the problems on the problem list. SOAP is the acronym used to deal

		with each problem. (S subjective data, O = objective data, A = assessment, and P = plan of action)
192	What is ICD Coding?	Coding is the process of assigning numbers to disease and procedural terms. The principal source of the information coded is the medical record. The face sheet lists final diagnoses and operations and is completed by attending physician. A code number for each disease and operation is recorded on the face sheet by the coder. Coding is performed in order to group conditions and procedures that are similar for statistical tabulation.
193	Why do we need to code?	Coding is done in order to group conditions and procedures that are to plan appropriate health services; classify patterns of disease in a health care facility; forecast health needs of communities, region and nations; study epidemiology (incidence rates of diseases etc); standardise reporting system for easy assimilation; provide teaching material for medical education; evaluate health care with appropriate measures
194	How morbidity and mortality information helping in healthcare delivery system?	in order to have comprehensive and information on morbidity and mortality for developing best possible health care delivery system including preventive, curative, primitive and rehabilitative, for any nation has evoked the need for the diseases classification acceptable throughout the globe. Hence, the development of International Classification of Diseases has come to existence.
195	What is Personal Health Record (PHR)	Purposes of PHR: Maintaining one's own personal health record is one of the best ways to have constant access to his/her health information over the course of lifetime. Whether one changes physicians or the physician relocates or retire, by keeping their own personal health record, the person and his family will have vital information at their disposal at any time whether they stay or travel. With this information, one can provide information to new caregivers, and discuss easily all aspects of one's health problems.
196	How to maintain a Personal Health Record (PHR)?	The PHR is a simple health passbook which can be maintained on your home computer or through a reputable web site. When traveling, you can carry a pen-drive or any other portable device which can store information about significant illnesses, investigation reports, surgeries, allergies, immunizations, medications, and necessary emergency medical information. For those individuals with special medical conditions such as diabetes, hypertension, or heart conditions, they should consider wearing an alerting device to inform others of their condition in an emergency.
197	Where the HIM professionals besides the hospital environment work?	The HIM professionals, besides the hospital environment, also work for accounting firms, insurance companies, information systems vendors, government agencies, pharmaceutical research companies, and others. They often bridge roles such as connecting clinical, operational, and administrative functions that affect the quality of patient care at every touch-point in the healthcare delivery cycle. HIM professionals manage people and operational units like the release of information, file room, transcription, coding, and billing, etc., participate in administrative committees and prepare budgets. And interact with all levels of an organization such as clinical, financial, administrative, and information systems. HIM professional is an expert who possesses comprehensive knowledge of medical, administrative, and legal requirements related to

		healthcare delivery
198	Why HIM professionals move from conventional safe zone to threatening challenging role?	<p>HIM professional move from conventional safe zone to threatening challenging role: The hospital activities have to be critically examined to ensure that the services, efforts, and funds are not wasted, abused, not duplicated, unnecessarily experimented with, no communication gap, expansion of departments internally or externally without justification and also to ensure judicious utilization of beds, proper distribution of manpower and resources.</p> <p>Thus, the immediate aim is to move towards a more economical balance of services and to eliminate ineffective, excessive, and unnecessary medical procedures. The expenditure spent for the above services has to be converted into cost units such as expenditure per bed, inpatient day, each hospitalization episode, outpatient per attendance and episode, delivery, intensive care bed, surgical procedure, each laboratory analysis, radiological film, per pint of blood, per diet, patient records, consultation, and expenditure on personnel and so on are required to develop a cost analysis criteria to carry out performance review in terms of cost and quality.</p>
199	Is it good to work for long period in one organization?	<p>No, if the organization's expansion is progressing successfully and the employee's career and financial benefits are also growing; then it is nice to stay. If employees continue with the same position with minimal financial growth; then they are in negative status and restrict their future career growth by staying in the same organization. Many advantages to changing jobs; he gets motivated to acquire more professional qualifications or skills to improve his expertise to get higher posts with high salaries. The new organization recruits on past experience; after joining; they expect a better outcome from you that makes you learn fast to perform better and earn a name. Besides, your contact with varied talented personnel, through that you not only your relationship increases but also become more confident to grow fast. If you stay longer in the same place you become, demotivated and simply ruin your career.</p>
200	How to outshine and succeed in your profession?	<p>First, you should have the ambition to acquire a position; instead of taking instructions from supervisors, and carrying a routine job, instead, you should be capable of doing better work independently. This is possible when put your desire, into a practical way of acquiring the latest knowledge and skills needed for your job; and want to gain confidence in your expertise, which can fetch a better job with high emoluments that will add to your self-esteem. Success comes only when you have passion, dedication, and focus on the given task; and the ability to perform in a given time or even earlier. There is no shortcut for hard work or serious commitment to your work. Get inspiration from those highly successful in their fields, and take an oath why not me? With oath apply 100% practice to achieve, results that are much superior and earlier than expected period.</p>
201	What is Hybrid Health?	<p>Dr. Mogli defines "A hybrid health record is one where some records are maintained manually and some records are automated. Precisely, some hospitals have both the systems practiced side by side. It could be that up-to a particular date, the records were maintained entirely</p>

		manual, and the hospitals would have switched to electronic completely on particular firm date. In this situation, the hospitals would be maintaining both manual and electronic as well. The combination of both the systems either partially or fully is considered to be hybrid”.
202	What issues to be considered and solved prior to starting of computerization of the medical record management system?	Prior to starting of the computerization of the medical record management system of the hospital, lot of issues have to be taken into consideration; the master plan has to be drawn, that would have various phases, a committee comprising of the following members should be formed to take various decisions during the process of computerization and various meetings should be organized to collect the ideas of the each and every member.
203	What is System Analysis?	System analysis is the process of collecting, organizing and evaluating facts about information system requirements and the environment in which the system will operate.
204	What is System Analysis Report?	The results of the information system analysis should be documented in a final report of the study phase of the project. The report might include the following element.
205	What System Analysis Report should include?	1. Introducing and overview of the existing system, scope of the project, departments involved and feasibility study. 2. System objectives stating the overall objectives of the introduction of the new system. 3. <i>Findings</i> : detailed methods of the existing system and performance requirements for the proposed system and the economic analysis and justification for the need of the new system. 4. Finalized reports submission to the management with recommendations to the management.
206	What is System Designing?	System design is the creative, technical process of converting information system requirements into a detailed set of specifications for a system.
207	What is Forms Design?	The Forms designing is the process of preparing the required format of the forms to capture the data and to present reports. The designing of the forms should be standard chronological order and user friendly, so that capturing and keying of the data by the end users will be made easy.
208	What is Data Designing??	The Data designing is the selection of the data to be used, the names given to the data should be closely related to the item which is going to be stored (e.g. the data name in which the patient name is to be stored can be “patient name”).
209	What is Data Flow Diagram?	Data Flow Diagram is a graphic tool and analyzes the movement of data through a system, manual or automated, including the process, storing of data and delays in the system. Data flow diagrams are the central tool and basis from which the other components are developed.
210	What is HIPO Chart?	The HIFO charts are hierarchical input process output charts. HIFO chart is also a graphic diagram of system and consists of a visual table of contents that describes the system overall and set of functional

		diagrams. Each diagram shows, input, output, processing steps, and data flow. HIPO diagrams are very effective for documenting a system.
211	What is System Program?	System Program is the pre-designed program can be purchased, or it can be developed as per the requirements which will be tailored made. The pre-designed program may be easily available or time saving but it may not be suitable in Toto
212	What is System Testing?	System testing is the critical process for the program development. The objective of the system testing is to prove that there are no errors in the programs. However, this is virtually impossible, since analyst cannot prove that software is free and clear of errors. Therefore, the most useful and practical approach is with the understanding that the testing is the process of executing a program with the explicit intention of finding errors, that is making the program fail.
213	Who is System Tester?	The tester, who may be an analyst, programmer, or the specialist in the software testing is actually trying to make the program fail, the successful test, than, is one finds an error.
214	When health information system should be operational?	No health information system should be put into operation without complete system testing. The test should be carefully planned and should cover all aspects of the new system in as realistic an environment as possible. In some cases, parallel testing of the new information system in comparison with an existing manual system is necessary.
215	What is System Implementation?	System Implementation is done once a thorough systems analysis has been completed, a design approach selected, and system design specifications prepared and approved, then implementation of the health services information system can proceed.
216	What steps need to be taken in executing a health information system?	The steps in implementing a health information system are: a. Equipment acquisition; b. Computer programming; c. Training d. File conversion; e. Installation of the antivirus programs; f. Security and g. Documentation.
217	How many types of implementation?	There are two types of implementation such as 1. Phase by phase implementation, and 2. Total implementation.
218	What is System Evaluation?	The system evaluation phase is one of the important tasks to be performed after the implementation. In this phase, the performance of the new system has to be evaluated by conducting various tests including collection of information from the various levels of the users about their views on the new system, and the outcome of the results have to be seriously evaluated and whatever; simple changes required have to be done. Whatever, the system cannot be constant and needs to be re-evaluated regularly, to meet the latest requirements in accordance with the developments.
219	What is System Maintenance?	System Maintenance require both scheduled and unanticipated maintenance once they are working. No matter how well a system is

		designed and regardless of how well it has been tested, there inevitably will be errors uncovered after the system goes into production. Systems analysts and programmers must be available to find such problems quickly and to initiate immediate corrections.
220	What is Telemedicine?	Telemedicine is the integration of two well-established disciplines, medicine and telecommunication. The investigation, monitoring and management of patients and the education of patients and healthcare staff using systems which allow ready access to expert advice and relevant patient information, no matter the patient is located. This means the patient will be treated in a familiar environment with additional facilities, e.g. clinical findings are interpreted by experts located at remote centers of excellence, even transcending national boundaries if necessary.
221	What are specific Telemedicine applications?	<i>Some Specific Telemedicine Applications Are Teleradiology</i> , which offers the possibilities for image transmission including non-standard image formats, very high resolution, error-free transmission and short transmission times. <i>Hemodialysis</i> , which offers the facility to monitor patients centrally from a nephrology unit. <i>Teleconsultation</i> , which uses telecameras to allow professional at different locations to consult each other. <i>Teleanalysis</i> , which tests the validity of blood and urine tests executed at remote laboratories. <i>Teleobstetrics</i> , which offers the possibility of monitoring, fetal heart signals and newborn vital signs at home. <i>Telencephalogram</i> , which transmits EEG, signals from remote hospitals into a neurology center. <i>Telecardiology</i> , which looks at the transmission of ECG signals from different locations into a cardiology center.
222	What is Electronic Health Record?	Electronic Health Record (EHR) is software that allows you to create, store, organize, edit, and retrieve patient health records. EHR's were originally known as Computerized Patient Records (CPR). In the past all the health information of a patient was recorded on a paper. As the information technology advanced the health care information has migrated from paper to computers
223	Where E.H.R maintained?	EHR is generated and maintained within an institution, such as a hospital, clinic, or physician office. An EHR is a longitudinal record of all care provided to the patient in all venues over time. Longitudinal records may be kept in a nationwide or regional health information system. Therefore, EHR's that are custom-designed or reside in other health care delivery venues are not reviewed in this document. The EHR is about quality, safety, and efficiency
224	What is Clinical Data Limitation in computer system?	Clinical Data Limitations: Clinical data are textual and contextual, but computers have been designed primarily to manipulate discrete, factual data. Computers are very good at storing large volumes of data and performing mathematical formulas or clearly defined retrieval functions. However, they do not have the human capability of "thinking" or making associations or assumptions on their own.
225	What is Technical	Technological Limitations: The care of patients requires direct

	Limitation in computer system?	interaction between patients and caregivers. Pen and paper that slip into a pocket are much easier to manage when a caregiver is making rounds and administering to patients. New, smaller, wireless devices, such as PDAs, notebook computers on carts, and even cellular phones with data capture capability and improvements in voice and handwriting recognition are beginning to address technological limitations. So, too, are efforts to redesign care process that better incorporate the use of computers.
226	What is Cost Limitation in computer system?	Cost and Value Limitations: A major consideration for any provider adopting EHR's is cost. Today, all healthcare providers are seeing reduced revenue and increased costs. The EHR is considered an investment that must pay itself. The systems undoubtedly cost a significant amount of money in addition to the time required to tailor them to the environment and to manage the degree of change they create.
227	What is Standardized Limitation in computer system?	Standardization Limitations: The lack of standardization—to define the EHR, write interfaces, compare data, ensure data quality, and perform many other functions associated with EHR's.—also has made it very difficult to achieve widespread adoption. It is not that some standards do not exist. For example, there are standards for writing interfaces, but not every vendor is required to use them and they contain high degree of optional. Moreover, there are standards vocabularies, although their number, until recently converted into SNOMED, has equated to a tower of Babel.
228	What is Change Limitation in Computer language in computer system?	Change Limitations: is the underlying issue of the degree of change imposed by EHR systems. Although somewhat dependent on the computer skills of healthcare professionals, the immensity of change begins with learning how to use a computer. Many healthcare professionals today still do not routinely use a computer at home or at work, and need basic computer skills. Work flows and processes in healthcare also represent enormous obstacles.
229	What is Health Level Seven in computer system?	Health Level Seven, Inc. (HL7) defined the first EHR functional requirement standard in February 2007. The standard outlines important features and functions that should be contained in an EHR system. The standard's Functional Model contains approximately 1,000 conformance criteria across 130 functions, including medication history, problem lists, orders, clinical decision support, and those supporting privacy and security.
230	What are functional requirements in computer system?	The functional requirements are classified as Administration requirements; Clinical documentation requirements; Data export requirements; Data import requirements; Clinical decision support systems requirements; Prescribing requirements; Orders management requirements; Reporting requirements; Results management requirements; Privacy protection and security requirements.
231	What is required when you make a decision to go paperless?	“The decision to go paperless involves having enough confidence in the electronic system to let go of the paper system. This includes ensuring that the system handles amendments, corrections, authentication, backups, down time, confidentiality, and printouts and

		reports for disclosure purposes
232	Why the Check List for assessing HIM Dept. Planning for E.H.R.?	The purpose of this checklist is to look more specifically at what should be addressed in an HIM department preparing for migration to the EHR.
233	What required when decided to migrate to E.H.R and to eliminate paper based records? -	The list below is that the organization has decided to migrate to an E.H.R and. the decision has been made to eliminate the paper-based record. Getting started; IIM Department plan; Regulatory and Accreditation requirements; Content; Format and Forms; Policies and Procedures; Privacy and Confidentiality; Hardware & Software.
234	What is Electronic Health Records Standards?	To share the medical data across different organizations, standards are created. When these standards are followed, the integration of medical data with different IT systems becomes easy.
235	How many groups the E.H.R Standards can be categorized?	The standards can be categorized into three groups. They are: a. Classification, vocabulary, and terminology standards; b. Data interchange standards; and c. Health record content standards
236	What is (SNOMED CT)? And who developed?	SNOMED (Systematized Nomenclature of Medicine-Clinical Terms) was developed to facilitate the storage and retrieval of detailed clinical information. SNOMED is the result of collaboration between the College of American Pathologists (CAP) and the United Kingdom's National Health Service (NHS).
237	What are Five important domains of SNOMED?	The five important domains of SNOMED are; .a. Laboratory result content; b. Non-Laboratory Intervention & Procedures: c. Anatomy and Physiology; diagnostic & Problem Lists; e. Nursing.
238	What is Logical Observation identifiers and Codes (LOINC) and its purpose?	LOINC was developed to facilitate sharing of laboratory results with hospitals, physicians, third-party payers, and other users of laboratory data. LOINC provides universal names and codes for identifying laboratory and clinical results.
239	What is Digital imaging Communication in Medicine (DICOM)?	DICOM is the standard in the radiology and cardiology imaging industry The DICOM SR helps to exchange and manage images and image related information. DICOM is also used in other image related medical fields, such as pathology, endoscope, dentistry, ophthalmology and dermatology.
240	Who developed the DICOM?	DICOM was developed by the American College of Radiology/National Electric Manufacturers Association. It is now an independent and international Standards Development Organization (SDO).
241	What is National Council Prescription Drug Program (NCPDP)?	The aim of NCPDP is to “create and promote data interchange standards for the pharmacy services sector of the health care industry, and to provide information and resources that educate the industry and support the diverse needs of its members”
242	What is institute of Electrical and Electronic Engineers (IEE)?	Institute of Electrical and Electronic Engineer (IEE) standards IEE 11073 are a set of medical device communications standards, also promulgated by the International Standardization Organization (ISO) and knows as ISO 11073. These standards communicate patient data

		from medical devices, such as patient monitors, ventilators, infusion pumps, and so on.
243	What is the Retrieve information for Display (RID)?	The Retrieve Information for Display (RID) Integration Profile provides read-only access to patient-centric clinical information that is located outside the user's current application but is important for better patient care (for example, access to lab reports from radiology department). It supports access to documents in formats such as CDA (Level 1), PDF, and JPEG. It also supports access to specific key patient-centric information such as allergies, current medications, summary of reports, etc. for presentation to a clinician.
244	What is IHE Cross-Enterprise Document Sharing (XDS)?	Cross-enterprise Document Sharing (XDS) is another IHE specification. The XDS Integration Profile defines two basic concepts: Document Repository and Document Registry. A patient record (Document Repository) consisting of different clinical documents is organized by a Document Registry. To share these document registries standardized metadata, interfaces, and formats are required. Document registries, an emerging technology for indexing documents on a network, provide solutions to many of these challenges. A number of industrial and international standards organizations support current document registry standards.
245	What is Technological Infrastructure Assessment?	Any software company offers a vast array of services, starting with the technology profile of a potential building surveying the condition of existing IT & telecommunications infrastructure. From this initial overview of your office design, project management planning of your IT infrastructure and technology relocation or expansion is put into a formal planning and implementation management overview for your new facility and the process is began.
246	What is the Infrastructure?	The infrastructure includes the supporting hardware, software and management systems required to run a particular application or suite of applications (in this case the EHR). This includes the data network (routers, wires, switches, hubs), workstations (PCs, laptops hand-held devices), servers (database, application, print/file), and telecommunications equipment and services.
247	What are the criteria for design and complexity of the infrastructure?	The design and complexity of the infrastructure will depend on the size and complexity of your organization, as well as your ability to function without the EHR should it is unavailable. For mid-sized to large organizations (i.e., those with hundreds or thousands of users) falling back on manual processes when the automated system is down is problematic at best, and, in the worst case, may compromise patient care.
248	What Infrastructure of Hardware, Software, and Connectivity?	Infrastructure: Hardware, Software, and Connectivity: A critical first step in establishing any clinical information system is t builds reliable computing infrastructures that start a "cultural shift" towards computerization. All physicians should become comfortable using computers in their office well before an EMR system is installed. A physician should therefore have easy access to a computer that has standards applications (e.g., e-mail, word processing, Internet access), basic clinical software (e.g., patient education handouts, medical books

		online), and an enterprise –wide Internet suite that contains information such as hospital policies, paging directories, and local disease management guidelines. This computer network should be fast, reliable, and easy to use.
249	How to make sharing of medical information easier?	A number of attempts have been made to make the sharing of medical information easier. Health Level -7 (HL-7) is a standard promoted as a means of permitting easier communications between computer systems. Any EMR system under consideration should support his standard. ICD and CPT codes are standards for billing and recording diagnoses and represent the most widely used coding standards.
250	What is Common Object Request Architecture (COBRA)?	Common Object Request Broker Architecture (COBRA) is a new standard for handling object use by software program sharing a common environment. COBRA technology is only now beginning to appear in EMR system. It is not essential that a system utilize this technology at present, but it should be considered a plus if it is included. MEDICIN and Read codes are vocabularies for recording the information that appears in the progress note. They offer hope to the idea of creating progress notes that are fully encoded, indexed and searchable.
251	What is Hardware infrastructure?	Hardware infrastructure: Among the first task on the project plan will likely to be prepare the organization’s infrastructure for the HER system. This may entail purchasing and installing hardware, upgrading the network, and even making changes in the physical plant. For example, some organizations must do extensive cabling or even expand or rebuild their data center. Hardware purchasing and delivery also are two separate tasks.
252	What is Process Infrastructure?	Process Infrastructure: Process analysis and design or least in depth analysis and actual implementation of changes based on the specific vendor’s functionality. In paper environment, clinical pathways for some clinicians were treated as general “guidance” rather than required processes. Reviewing what pathways exist, developing new pathways and starting to use them more fully can be initiated in the paper environment prior to full E.H.R implementation, although many clinicians find it difficult to fully implement them without fully automation.
253	What issues influence in EHR System Implementation and Maintenance?	Many factors influence the organizational structure of care delivery organizations (CDOs). These include location (urban vs. rural), organizational mission, size, complexity of services offered (primary, secondary, tertiary care), and availability of sufficient funds to support operations and capital investments. CDOS that are part of university are even more complex, with added administrative staff required for their teaching and research mission.
254	What commitment should be made by Decision and Policy makers contemplating an E.H.R for the institution?	An institution contemplating an EHR must have buy-in from the very top of the organization (including its board) and be willing to make information technology part of the organization’s strategic plan. Resources for initial and ongoing IT investments must be committed – and the institution must have the patience to wait for the return on those investments.

255	What is Needs Assessment in implementing E.H.R?	Needs Assessment: Implementing an EHR requires that you conduct a needs assessment, identify and quantify measures of success, and determine the methods for maximizing ongoing benefit realization. Needs assessment can be defined as a systematic process to develop an accurate understanding of the strengths and weaknesses of a business process in terms of efficiency and quality. This understanding is used to set and prioritize goals, to develop a plan, and to allocate resources.
256	What methods to be adopted to understand the department priorities?	Needs Assessment required to understand the department's priorities and lays out an organized approach for creating infrastructure and allocating resources. The following will give better understanding: a. The goal of the proposed project; b. The current process and workflow; c. The gap between goal of the project and current process and workflow; d. The capabilities and limitations of the software in addressing the gap; e. The probable risks related to technical and operational; f. The needs assessment should be completed prior to purchasing the EHR software
257	How to select a Vendor and Contract Negotiation?	Vendor Selection and Contract Negotiation: The most important aspect is selection of an EHR whether it is developed in-house or purchasing from a vendor. If we are planned to buy from a vendor, then we have to focus on selection of an appropriate vendor who will fulfill our requirements. Vendor selection is considered like selecting once spouse because of long term relationship. Once we selected the software/vendor, we will be associated for a fairly long time, difficult to separate. Thus, understanding the organization business needs and its culture are essential to selecting right software and also right vendor partner to keep the system function unhindered.
258	Why to set a clear Goal?	Goal Definition: Having set a clear goal as to what system that supports the entire spectrum of clinical care, particularly outpatient, emergency department, inpatient services etc. According your prior planning the implementation has to be carried out. Whatever planning had gone into the system to meet the goal has to be examined thoroughly and action initiated accordingly.
259	How to define requirement in terms of computer system implementation?	Requirements: Having defined the goals of the organization clearly, it becomes imperative to ensure that the organization has to have written process defining requirements such as issuing for proposal, system selection, and contracting etc. The approach to E.H.R vendor selection should focus on assessing how the software could support your strategic goals and operational needs and its long term maintenance
260	What is solid infrastructure that supports the software?	Infrastructure: Introduction: A solid foundation is a basic requirement for any structure that is meant to last. . Any information system particularly for an E.H.R requires a solid infrastructure that can support the software and it users. The infrastructure includes the supporting hardware, software and management system required to run a particular application or suite of applications of E.H.R. This includes the data network (routers, wires, switches, and hubs), workstations (PCs, laptops, hand-held devices), servers (database, application, client, administration, etc.) and telecommunications equipment and services. In most cases, it also includes the controlled environment in which many of these components operate.
261	Why the Network	The Network: All systems that support more than a single user require

	required?	a local area network (LAN) to allow different users to access the features, functions and data in the EHR. LANs come in different configurations and can use different communication protocols. Currently, most organizations use transmission control protocol/internet protocol (TCP/IP) over Ethernet for their LAN environment. TCP/IP was originally developed for the Department of Defense and is the basis for communicating on the Internet.
262	Why Workflow Assessment and Re-design is required?	Workflow Assessment and Redesign: To implement an EHR effectively, operational leaders and implementation teams will need to understand your organization's current workflows. This understanding will guide your needs assessments for the implementation and provide the starting point for redesigning more efficient work processes. It is good to concentrate on designing EHR workflows that facilitate clinical best practice, rather than automating existing workflows, believing that this approach produces greater improvements in efficiency and quality. Other care delivery organizations (CDOs) focus on automating existing flow to simplify the implementation.
263	Why the User Interface?	The User Interface: The user interface must use clear design to provide easy access to complex information. A key element of clarity is designing the interface of the E.H.R to reflect standards clinical workflows. Simplicity is at the heart of clarity
264	Why effective training to staff is must?	Training: After devoting months to developing a new EHR and improved workflows, your organization will need a wide range of clinical and administrative workers to become skilled users of the EHR suite of applications? Although a often under-budgeted, training is critical to achieving this goal. Effective training helps users achieve the efficiency and care quality benefits of an EHR. It improves morale and decreases employee turnover. Finally, it communicates your organization's commitment to implementing an effective EHR.
265	Why Learning is important?	Learning: Learning is an important factor; hence, the staff expects training to be meaningful and relevant to their perceived needs. They often ask, "Why do I need to know this?" or 'How will I use this?' Effective training must address these questions explicitly and persuasively. Simply showing the user how to use software features is not sufficient. Most learners are interested in getting their work done faster and easier with no loss of time and quality. They bring extensive knowledge and experience to the classroom and expect to relate this knowledge to their new learning. The learners measure their learning by competencies gained. Learners who already have EHR knowledge or skills or who can learn them on their own will rightly criticize a training system that does not allow them to demonstrate their competency and resume their work.
266	How Self-Paced Learning helps?	Self-paced learning is effective for learners and efficient for both the learner and the organization. In order to make self-paced learning effective had to provide emergency trainer-led course to get users trained in time to meet go-live schedules. And also need to install a computerized learning management system that promises to make self-paced learning more feasible.
267	What is Clinical Decision Support	Clinical Decision Support; The EHR should be built to provide clinical decision support (CDS) as effectively as your car does. It is expected

	(CDS)?	that most CDOs will soon conclude that accreditation, care-quality, and reimbursement all require them to implement effective CDS in an EHR. This assumption is based on a research literature that provides good evidence of the efficacy of small numbers of CDS interventions in research settings using non-commercial EHR's.
268	Why Phased Implementation is important?	<p>Phased Implementation: Phased implementation is the stepwise introduction of EHR functionality through a series of phases, each with its own analysis, training, and go-live schedule. A phased approach spreads the users' learning over time, producing several manageable peaks in cognitive load. This reduces training needs and the productively loss typically associated with EHR implementation.</p> <p>The core principle of phased implementation is simply to gain with the least disruptive, most useful EHR functions, and then move to increasingly demanding functions as users increase their skills and see the benefits of an EHR. This approach enables to move to use of full EHR with a minimum of disruption of patient care or practice efficiency.</p>
269	Define Patient Safety?	Patient safety can be defined "as the condition of being safe, freedom from danger or hazard or risk or injury and adverse effects, exemption from hurt, or loss. Freedom from whatever exposes one to danger or from liability to cause harm, or loss, hence the quality of making safe or secure or giving confidence, justifying trust, insuring against harm or loss, etc., happening to a patient as part of systematic relevance of data obtained from incident reports, from any healthcare organization and learning from near-miss and adverse events to facilitate in either eradicate or minimize the adverse outcome is called patient safety".
270	Where the safety of the patient is affected?	The health sector is a high-risk area because of adverse events, arising from treatment rather than a disease, can lead to death, serious damage, complications, and patient suffering. Current data show that almost half of all preventable adverse events are a consequence of medication errors. Most of the current evidence on adverse events come from hospitals because the risks associated with hospital care are high, but many adverse events also occur in other health-care settings, such as physicians' offices, nursing homes, pharmacies, and patients' homes.
271	Why patient safety is affected?	Today's healthcare context is highly complex and care is often delivered in a pressurized and fast-moving environment, involving a vast array of technology and, daily, many individual decisions and judgments by healthcare professional staff. In such circumstances, the probability of making mistakes or things could go wrong. Sometimes, unintentional harm comes to a patient during a clinical procedure or as a result of a clinical decision. Errors in the process of care can result in injury or permanent disability and sometimes death.
272	How Patient safety is affected due to MR information deficiency?	Patient safety is affected by inadequate information, illegible entries, lack or change of information, misinterpretations, and insufficient interoperability. Continuity of care is badly affected by the lack of shareable information among patient care providers.
273	How IT can help in preventing the	Information Technology (IT) plays a vital role in reducing errors, improving care coordination, enhancing efficiency, dipping duplication, and increasing the amount of time dedicated to direct

	adverse effect?	patient care. Clinical information systems can have a profound impact on patient quality, outcome, and safety. Several studies have shown that physicians who had access to clinical practice guidelines and features such as computerized reminders and alerts were far more likely to provide preventive care than were physicians who did not have.
274	What are Quality Assurance Standards?	The hospital shall conduct an ongoing hospital wide quality assurance program to continuously monitor and evaluate the quality of care. The purpose of this program is to identify variations from accepted standards of care, to identify trends or patterns suggesting problems, and to indicate options for corrective actions. The goal is to achieve the highest standards of patient care that can be delivered with available resources.
275	Who is responsible to maintain Quality Assurance Standards?	It is the responsibility of the governing body and Ministry of Health through the hospital administration, medical staff, and others to provide the best possible health care within available resources at par with the developed criteria with ongoing monitoring and readjusting of the services and facilities.
276	What is the channel of reporting Quality Assurance activities?	The channel of reporting for all quality assurance activities shall be clearly written by drawing an organization chart with classifications of units and department communicated to all concerned. The report originates from units or departments with findings, and suggested actions taken, or to be taken. Reporting includes pertinent findings with solutions relating to departments and services, medical staff, administration, or governing body, to higher authorities or committees for timely suggestions and approval for implementation.
277	Who should participate in Quality Assurance Program?	The monitoring and evaluation of the quality and appropriateness of patient services in coordination with the predetermined entries shall cover all aspects of care provided by the hospital and its departments, units, and personnel. All the units, departments, and services with no exception shall participate in the above activities and hospital wide functions performed, e.g. infection control, utilization review, variance review, basic management, safety, and patient satisfaction.
278	What medical staff functions should be reviewed?	The following medical staff functions shall be reviewed: Blood usage review; Drug usage review; Pharmacy and therapeutic review; Medical record review; Peer review (on going); Surgical and invasive procedure case review
279	What is the Data Sources for reviewing?	Data Sources: The following are used as data sources, to identify and verify potential problems, and may include at a minimum: Medical Records; Morbidity and mortality review; Monitoring and evaluation. Findings from committee activities; Review of prescriptions and drug profiles; Occurrence variance reports; Review of diagnostic clinical reports; Utilization review findings. Patient satisfaction findings. Patient satisfactions surveys. Patient complaints. Staff interviews and observations .Staffing plan. Policies and procedures.
278	What planning for systematics on going comprehensive monitoring and evaluation process?	Quality Assurance Process; The hospital shall have a planned, systematic, and ongoing comprehensive monitoring and evaluation process, based on indications of pre-developed criteria to identify any deviation or problems to resolve appropriately with the concerned services, departments or individuals to improve performance. These

		activities shall be documented and records maintained for a minimum period of five years.
279	What hospital should assure to have good quality care?	The hospital shall assure that all aspects of care, services, furnished, and all medical staff and other health care providers and staff are included in the ongoing monitoring and evaluation activities.
280	What are the Functional departments that need to be reviewed?	The following functions and activities shall be included in the quality assurance program.; Medical Staff to review: Blood Usage, Pharmacy and Therapeutics, Drug evaluation; Surgical care, Utilization review; Infection control; Medical Records; Patient Representative Program (Hospital); Occurrences Variance Reporting System (Hospital-wide); Clinical Privilege and Re-privilege (Medical Staff & specified Professional personnel; Risk Management (Hospital Wide and Medical Record Service (MRD)
281	What is Quality Assurance?	<i>Definition of quality assurance:</i> Richard Thompson defines quality as the optimal achievable result of each patient. The avoidance of physician-induced complications and the attention to patient and family needs in a manner that, both cost-effective and reasonably documented.
282	What are three aspects of surveillance of assurance of quality?	Assurance of quality begins with an inquiry into or surveillance of three aspects of the care being given: (1) the structure within which the care is given (hospital), (2) the process of providing the care (providers of care), and (3) the outcome (the end result of care).
283	What is a quality assurance program?	The quality assurance program is a comprehensive and coordinated network of formal mechanisms that provide an ongoing objective assessment of patient care services and correction of identified problems.
284	What implies for Quality Assurance Program?	The assurance of quality implies a commitment beyond simply measurement and evaluation. It implies a commitment to take corrective action if the care rendered does not meet the criteria of quality. A good quality assurance program is imperative to the hospital organization.
285	Who are Responsible for ensuring good quality care?	It is the responsibility of the governing body and Ministry of Health through the hospital administration, medical staff, and others to provide the best possible health care within available resources at par with the developed criteria with ongoing monitoring and readjusting of the services and facilities.
286	What is the process for implementation quality assurance program?	Initial implementation should be simple and effective. The program can be extended gradually as the progress grows from infancy to maturity. A checklist containing all the organizational needs to be noted, and fulfilled before affecting the program.
287	Why healthcare cost to be economized?	In recent years, the rapid advances made in medical science with new innovations, the appearance of new health problems, high expectations of health consumers, escalating costs of health services, growing pressure on health care providers to render accountability for the quantity, quality, and timeliness, and cost of the health services rendered, increased discussions about the validity of health services offered by the institutions in the press and court of law and with the potential for abuse of new diagnostic and therapeutic modalities,

		quality control has become imperative.
288	What measures needed to economize the cost?	To develop suitable criteria/ parameters for quality assurance and to affect the economy in the health service expenditure. The main purpose is to ensure that the patient gets effective, timely, and best quality treatment in the hospital in a cost-efficient way without exceeding the budget allocated for the treatment at the same time to meet the objectives of a hospital.
289	What are potential units that can be economize the cost?	The expenditure relating to personnel, drug, diet, linen, equipment, furniture, forms, radiography, laboratory, buildings, transport, communication, maintenance, depreciation has to be calculated. Thus, there is a need to establish an efficiently managed cost analysis unit in all the hospitals.
290	What method to be used to know the cost of each service?	Cost Unit Analysis: The expenditure spent on the above services has to be converted into cost units such as expenditure per bed, inpatient day, each hospitalization episode, outpatient per attendance and the episode, delivery, intensive care bed, surgical procedure, each laboratory analysis, radiological film, per pint of blood, per diet, patient records, consultation, and expenditure on personnel and so on are required to develop a cost analysis criteria to carry out a performance review.
291	How presenting the cost in monthly report will help to control the cost?	The information relating to patient care and cost wherever applicable and feasible has to be presented in a monthly report and copies should be made available to the authorized department staff. The staff concerned should be made aware of the expenditure incurred by the respective departments for carrying out the functions.
292	How the presentation of cost in monthly report will make the department to reduce the cost?	The monthly report is also a comparison of work (with unit cost analysis) carried out by different sections of the hospital, it automatically acts as a monitoring mechanism and reminding factor to the staff which directly or indirectly forces them to be on their toes to find ways to reduce the cost without sacrificing the quality of service.
293	What is Economic Efficiency?	Economic efficiency in health care can be defined as the provision of necessary care of good quality at minimum cost. Thus, the immediate aim is to move toward a more economical balance of services and to eliminate ineffective, excessive, and unnecessary medical procedures
294	What is the reason for increased cost and inefficiency?	Both demand and supply play a part in generating extra costs of healthcare. Wherever, patients are not responsible for payment for their treatment and insurance or another organization pays, these factors contribute to an excessive and unbalanced supply of services that is a major cause of increased costs and inefficiency.
295	What are different forms that cause economic inefficiency?	Economic inefficiency in the supply of health care can take several forms. One is the excessive use of hospital beds indented for the care of acute illness when quality care could be provided elsewhere at a lower cost. Sometimes beds are filled to get the budget. Moreover, the higher the occupancy rate, the greater is the funding for new equipment and that becomes a source of enhancing the hospital's prestige
296	How doctor initiated	Excessive and unnecessary medical procedures also constitute a form

	procedures too cause for economic inefficiency?	of economic inefficiency: doctor-initiated repeated visits, the excessive prescribing of drugs, the prescribing costly drugs when less expensive equivalents are available, the excessive use of laboratory and X-ray services.
297	How to increase efficiency?	The logical way to increase efficiency is to plan for a correct balance of available services and trained manpower necessary to meet medical needs, geographically distributed on a rational and equitable basis. By encouraging cost awareness, some countries are trying to make doctors aware of more economical prescription practices, informing them of the differences in the cost of equivalent or near-equivalent drugs that can be substituted for more expensive ones they may be using.
298	How pharmacist can help in increasing efficiency?	In some provinces of Canada and the USA, pharmacists are empowered to substitute cheaper “equivalents” unless the doctor has specifically forbidden substitution on the prescription. <i>The</i> common practice of making specialist care accessible only on referral from another doctor has the potential of reducing the costs of healthcare.
299	Why it is hard to accept that health system operates efficiently?	It is extremely hard to accept that the health system operates efficiently, firstly, there is nothing to ensure that the available resources are put to the best possible use and the medical profession ought to be concentrating on defining criteria for the allocation of resources by evaluating the various diagnostic and treatment techniques and the various ways of organizing health services.
300	Does spending more on health services mean getting better health?	Spending more on health services does not necessarily mean getting better health. It is efficiently managed the expenses. Estimates of total expenditure on health services are essential for health policy planning and need to be classified by type of resource, source of finance, and the kind of service in each geographic area and application of proper spending.
301	Why unit cost is necessary in cost control?	Crude calculations to show the general pattern of distribution of expenditure on health services, to produce unit costs, are sufficient. Unit costs are necessary for considering the financial feasibility of operations in health planning. Calculation of unit costs helps the administrator to analyze different part of the budget and how they are being spent.
302	How cost-benefit analysis aid help in planning?	Cost-benefit analysis is an aid to systematic planning about what to do. An attempt is made to assess the benefits of different programs and to compare those benefits with the cost of obtaining them.
303	How Cost-effective analysis helps in achieving optimum?	Cost-effectiveness analysis is an aid in deciding how to achieve a given level of performance at minimum cost, or how to obtain the maximum performance from a given budget.
304	Why Cost-effective analysis is better than Cost-benefit analysis?	Cost-effectiveness analyses are much easier than cost-benefit analyses because the aim is clear. Cost-effectiveness analyses are not just for research, but for practical application by the health, the administrator is using his health resources at the local or institutional level. What is required is ‘will do and creative thinking to develop ways of solving problems.

305	How health information can help in finding lacunae in the services?	The health information has to be collected, compiled, and interpreted with cost analysis and compared with developed criteria/parameters which will help in finding lacunae in the services. Each service department should maintain a record of problems experienced and steps taken to solve them.
306	How medical records can help in potential wastage and abuse of services?	The expenditure incurred on potential wastage and abuses of services have to be critically examined and monitored. There is a dire need for proper maintenance of medical records to collect accurate and comprehensive health information, cost analysis of service, and regular medical audit; constructive criticism with no spirit of fault-finding, honesty, and fearlessness in dealing with errors to assure the quality and economize the health service expenditure.
307	Why one need good communication skills besides good academic and professional qualification and expertise?	Besides having good qualifications academically and professionally and acquired expertise by serving a number of years one will realize; those who have good communication skills are the ones usually very successful in their business or negotiations or convincing the higher officials in getting their required project or budget sanction and also their communication skills are such by they easily influence the decision-makers to take certain decisions that really benefits to many.
308	Why good communication skills are very essential for those holding managerial positions?	Good communication skills are a great weapon for any individual especially those are in managerial positions that not only outshine the officials but also with unknown and known personnel. In the course of any job, one would have realized its real worth, not in terms of finance or attaining political or any power but making the process smooth and swift and favourable decisions. It is a simple psychological ingredient one should possess that makes the working system very effective with good team spirit in achieving the set goal.
309	What special skills are required for to be an efficient manager?	Besides having good qualifications academically and professionally and acquired expertise; should also possess skills such as leadership, motivational, action oriented, verbal and non-verbal communication, persuasive, training or coaching, personalized presentation, brainstorming, writing, responding, .and recognition and application skills
310	What other skills are also essential for managerial personnel?	Manager to be an efficient leader; should be amicable, be clear and concise, be confident, able to building consensus, communicating goals, emotional control, empathy, feedback from both parties, open-mind, positive commitment, recognition and resolving conflicts, respect others, road map planning, straight talking, and stress management.
311	What Manager should make new employee to become good part of the management?	Every employee comes into the workplace with his or her own context, a mixture of culture, memories, upbringing, and experiences. Part of the role of a manager is to create a shared vision for the entire team. Make sure employees understand the vision, mission, and goals of the organization and how they become part of the management. Constantly communicate the “What is” behind the business plan: why the plan is important, the role the team plays, and the critical role individual employees play.
312	What way a manager makes the employee to	Every time you communicate with an employee, answer the questions: What’s in it for the organization and why should they involve and how they improve their performance. Compare and link

	improve their performance?	what's happening at the larger organization to your department in real-time, and make it a point to talk about how employees' work relates to the company's success.
313	What is a most vital communication skill used by manager to make employee alert to perform better?	One most vital communication skill is-Repeat, repeat, repeat; people are satisfied once they have done the given work and they are under the impression that the job is done well. Every time you communicate, ensure that what you are communicating to an audience is received the same message is really heard and understood. What an organization expects, end results, not the process, there are many processes done by many.
314	What needed for success of any organization?	Create opportunities for conversations that establish understanding and spread knowledge and expertise that is very much needed for the success of any organization.
315	What is the best way for a manager to keep quality work on track to get the expected end result of an organization?	What an organization expects, end results, not the process, there are many processes done by many. A message is communicated several times across multiple touch-points; when the employees hear the same message repeated, they're more likely to take notice and act it. Every time you communicate, ensure that what you are communicating to an audience is received the same message is really heard and understood.
316	What communication skills any manager should equip with?	Communication skills are the most vital set of skills any manager should equip with to improve business performance, build good teamwork, enhance the efficiency of customer service, encourage innovation, and build strong company culture.
317	What skills a person to acquire to outshine and succeed in his professional career?	Communication is important as it is an essential pillar in an effective organization. Similarly, for any employee to outshine and succeed in his professional career need to acquire good communication skills along with other modern knowledge.
318	Who is a Leader?	A leader is "a person who influences a group of people towards the achievement of a goal". A leader by its meaning is one who goes first and leads by example so that others are motivated to follow him. This is a basic requirement. To be a leader, a person must have a deep-rooted commitment to the goal that he will strive to achieve it even if nobody follows him.
319	Who is a humble leader?	The humble leader assumes they do not know all the answers and allows people to explain things to them. They look for the opportunity to learn something new and they use every opportunity to make others feel valued. The humble leader knows the world around them is changing faster than they can keep up and is grateful for the opportunity to learn something new or reinforce the knowledge they might already possess.
320	What type of Leadership Training makes a balance to the practice of leadership?	Leadership Training that focuses on character, values, and principles helps bring balance to the practice of leadership. It helps leaders build lasting and productive relationships that unleash employee motivation and help leaders who want to bust down the status quo and build an innovative culture. It helps leaders build lasting and productive relationships that unleash employee motivation and help leaders.
321	How a leader can be	Trust is the foundation for every successful leader's accomplishments.

	trusted building?	When people don't trust the leader, they won't follow very far. Creating an environment of trust is a tricky issue. People carry past hurts with them. Some people expect more from their leaders than they are willing to give themselves. We hear people say that they want to perform at a higher level, but they don't trust that they will be recognized or rewarded. It's not always fair, and it's not always easy for a leader to give in to gain trust but it is always the leader's responsibility to build trust among his colleagues.
322	How to gain the trust of his colleagues?	Two tips have been advised to the leader in his way of working to gain the trust of his colleagues: 1. Do what you say you're going to do. This will create a positive feeling among the people that the leader is clear in his thought about what to achieve and is really serious in implementing them. 2. Show people, you trust them if you want them to trust you. This principle is known as the Principle of Reciprocity. The Principle of Reciprocity states that we tend to feel obligated to repay in kind what someone else has given to us. In a nutshell, it says that if you want trust, you must first give trust.
323	Why effective Listening makes to achieve your goal?	Effective Listening: No matter what role you play in your company, becoming a more effective listener will help you get ahead in your position. It means fewer errors, improved accuracy, and enhanced working relationships. And, listening to your customers and referral sources will definitely help you in your marketing efforts. You will solicit better information from other people whether interviewing job candidates, solving work problems, or working to make a sale.
324	What are Qualities of a Leader?	Qualities of a Leader: is "One's ability to get others to willingly follow the top ten leadership qualities". Vision: -Dream, hallucination, apparition, idea, mental picture, image, visualization, revelation. Integrity: --Honesty, Truth, truthfulness, honor, veracity, reliability, and uprightness. Dedication: --devotion, commitment, enthusiasm, keenness, perseverance, allegiance, ardor, loyalty. Magnanimity: --nobility, generosity of spirit, high-mindedness, fairness. Humility: --humbleness, modesty, unassuming nature, meekness. Openness: --Honesty, Directness, Frankness, Sincerity, Candidness, and Ingenuousness Creativity: --originality, imagination, Inspiration, Ingenuity, Innovativeness, resourcefulness. Fairness: --justice, equality, evenhandedness, Sprite; Assertiveness: --Not aggressiveness, Boldness, brazenness, forcefulness, insolence Sense of Humor.
325	What is Motivation?	Motivation is an internal state or condition (sometimes described as a need, desire, or want) that serves to activate or energize behavior and give it direction: internal state or condition that activates behavior and gives it direction; desire or want that energizes and directs goal-oriented behavior; Influence of needs and desires on the intensity and direction of behavior.
326	How Managers motivate staff?	The job of a manager at the workplace is to get things done through employees, to do this the manager should be able to motivate employees but that is easier said than done. Motivation is inducing others in a specific way towards goals specifically stated by the motivator. The ability to instil "want to" in others, to motivate them, marks the difference between average leaders and great leaders. Getting

		people to not simply be inspired but motivated to take physical action may seem like a simple, even simplistic, approach to leadership. However, once you begin to see your leadership interactions in terms of physical activity, you'll see your leadership and the way you get results, in fresh ways.
327	What are four Laws of Motivation?	Here are four "laws" of motivation that you must adhere to if you want to consistently motivate people to get great results. Law 1. Motivation is a physical action. Law 2. Motivation is their choice. Law 3. Emotion drives motivation, Law 4. Face-to-face speech is generally the best way to motivate people (i.e., have those people choose to be motivated.)
328	How to create Motivation?	When you want to motivate people, the relationship is the name of the game, and you can't have a relationship, at least a productive one, as an absentee leader. Get out and about. This is more than MBWA, (Management By Walking Around). The key is what you do when walking around. Don't be about simply sharing information but also creating the environment for motivation. People hunger to be motivated. Even more: people are ALWAYS motivated. And if they won't be motivated for your cause, they will be motivated for their cause – a cause that may be at cross purposes with yours.
329	What is a Curiosity and how it helps?	Curiosity Jump Starts Your Personal Brilliance. Curiosity helps you clarify problems, ideas, and situations, and it encourages you to explore how they could be different. Actively exploring the environment, asking questions, investigating possibilities, and possessing a sense of wonder is all part of being curious.
330	How to Heighten Your Curiosity?	You learn more because you have a desire to know more. When you approach an idea, person, or situation with a heightened sense of curiosity, your natural tendency is to "quest" for additional information. Even when you can't immediately apply what you learn, you are training to keep your curiosity muscles "buff." Another advantage of being curious is that your brain is designed to reward you for exploring fresh ideas and trying new activities. When you experience novelty, your brain produces more dopamine -- an important brain chemical that lifts your mood and increases your sense of well-being.
331	When without consent can perform surgery on patient by hospital doctors?	Whenever any medical emergency patient from within the hospital or brought from outside (who is not MLC); the hospital staff can perform the medical interventions; or surgery without the consent of the patient or relatives; to save the life. In that case, the Surgeon or principal physician, another surgeon or doctor, and administrator has to sign the in the record stating that special measures have been taken to save the life of the patient without the consent, At leaser three persons signature to be taken as an evidence.
332	Who are Allied and healthcare professionals (AHPs)	<i>'Allied and healthcare professionals (AHPs) includes individuals involved with the delivery of health or healthcare related services, with qualification and competence in therapeutic, diagnostic, curative, preventive and/or rehabilitative interventions. They work in multidisciplinary health teams in varied</i>

		<p><i>healthcare settings including doctors (physicians and specialist), nurses and public health officials to</i></p> <p><i>promote, protect, treat and/or manage a person(‘ s) physical, mental, social, emotional, environmental</i></p> <p><i>health and holistic well-being. ’1</i></p>
333	On what healthcare services depends	<p>Effective delivery of healthcare services depends largely on the nature of education, training and appropriate orientation towards community health of all categories of health personnel, and their</p> <p>capacity to function as an integrated team.</p>
334	What is Professional growth?	<p>Professional growth focuses on gaining new knowledge, experience; and skills to be positive and understand the current situation and adjust and adapt to the organizational need of the profession; keep the Ego aside, and be humble to accomplish our goals. Most HIM need to execute the “Earning and Learning” process all throughout their career. Acquired knowledge and skills will give you tremendous self-confidence that makes you accept more responsibilities which is a vital key to getting closer to policy and decision-makers. One has to take boldly to lead if required; pursue the role required education; to gain the essential knowledge and the skills to take up a large project with more staff and budget to supervise and prove your management effectiveness.</p>
335	How Professional growth is possible?	<p>How it is possible: Decide about your expectations: obtain required qualifications; earn professional specialized certificates, learn new technology and use optimize your time for the work; Innovate the management needs and its challenges and what contribution you can make to solve the issues to make the institution optimal and efficient. One should always be ready to lead and be a mentor and bold steps leaving a safe-zone mentality; and also prefer to be carrying the work after taking orders from the boss, or other higher officials; instead, be ready to take on competitive corporate challenges not only to survive but to excel as a pioneer.</p>
336	How to be successful in new assignment or a new job?	<p>Every new assignment or job that you got is due to past experience and good work, but a new job needs evidently wholly different inputs and insights to succeed. You are under scanning for some time whether you are able to meet their expectations; if not; you lost the importance and you may continue but under goodwill, which is not good for an expert professional. In your every movement or walk while in the position, be extremely professional and equipped with the latest knowledge and skills to undertake a given task.</p>
337	Why conventional responsibilities of	<p>Introduction: In view of emerging technology and implementation of electronic health records, AI, ML, and Robotic; the conventional</p>

	HIM Department will diminish to overcome what education is needed?	responsibilities of HIM department will diminish and need a revision of HIM traditional education to the corporate competing syllabus to generate innovative HIM leaders on modern lines to meet the new challenges of maintaining paperless records. There is a need to engross in the effective and efficient management of hospital administration that brings the healthcare the cost which is a burning issue for all the healthcare institutions across the globe.
338	What is the Syllabus and Course content for Four year degree program?	Syllabus and Course content: Four-year degree the program, six semesters for theoretical and mock-up laboratory practice. The subjects taught are Anatomy, Physiology, Medical Terminology, Allied Health Sciences, Fundamentals of diseases, HIM, Biostatistics, Research, ICD, Hospital Management including; Ethical, Insurance, Reimbursement, Legal, Quality Management, Information, and Communication Technology, Hospital Information System, EHR, AI, ML, and Robotics; Health Data Management. The hospital practical one-year training is designed to offer experience in the HIM department that develops the student cognitive, affective and psychomotor skills with a positive attitude to produce a qualified innovative HIM professional.
339	What is methodology of teaching and learning?	The methodology of teaching and learning: The focus is faculty to learn more and teach less and students to teach more and learn less, this means more student interaction, inside and outside the classroom. Students are given topics in advance to prepare and answer, while the teacher is to ensure that they are on the right path. Students during lecture breaks spend most of the time in mock-up labs located within the institution to gain more work culture and innovative thinking.
340	Why HIM degree students to be placed in “Mock-up MR Simulation laboratory?	Students' hands-on directed practice gets under the qualified supervisors in the hospital. In order to gain comprehensive assimilation of practical knowledge, required skills, and the right attitude to perform given tasks, students to be placed initially in the “Mock-up MR Simulation laboratory and later in the HIM Departments of hospitals to have practical hands-on experience. This experience will make the student a competent HIM worker and an efficient manager.
341	In modification of HIM traditional education; how many types will be there?	HIM educational and training (HIMET) institutions: There will be three types of HIMET's; the first type without walls and the students remain at their own places of stay; and with the newly created innovative different apps will cover the education and training program they can practice with the special guidelines and complete either from their own place of stay or from any other areas. The second type with HIMET's with walls where the traditional methods will be followed; the third method will be having both (hybrid) the combination of first and second; to meet the needs of developed and third world nations
342	What benefit the student get due to innovative HIM education?	The idea of innovative HIM education with mock-up lab and practical training to encompass the syllabus and course content to enable the HIM student to gain utmost knowledge, skills and required attitude to deal with the latest technology and challenging issues faced by the

		hospitals in view of spiraling cost and high expectation of quality of care by patients.
343	How HIM professionals have to work?	HIM professionals have to work with passion, dedication, and have to widen their focus and broaden their horizons. Everyone has to prove their skills and to provide vision to the organization. And help in finding the ways to contain cost without scarifying the quality of care, the hospital management needs help to address this continual problem. This is an opportunity for Health Information Managers to assume leadership roles and be part of the senior management team to support them in providing facts for business opportunities, clinical care improvement, efficient Revenue Cycle Management etc.
344	How HIM professional to reach a new level?	When HIM comes with new innovative ideas to the management ; that an lift the status of the HIM professional to a new level, with different dimensions of roles and functionalities with emergence of EMR that would play a pivotal role for planning and executing data collection and performing big data analytics, educating physicians and care providers on documentation needs and providing extensive support in revenue cycle management.
345	What measures are needed for HIM to achieve to reach new level?	This Can be achieved by having continuous audits and quality assurance programs involving all the healthcare providers. Although technology is taking over traditional methods, HI Managers have to be vigilant with their educational background and professional expertise to prove indispensable healthcare team member.
346	How to find HIM student deficiencies and correct them?	By regular assessment on theoretical lectures, lab work, and assignments and hands-on practical work at hospitals and project work. Student deficiencies are identified and corrected. The grading should be based on: Assessment sheet, written reports by student, Student Log, Observation of a job duties explanation and Written Test.
347	What type of transformation will take in rendering healthcare services in the next 10 to 20 years?	The conventional methods: of rendering healthcare services will have a massive transformation in minimizing the hospitals and also a number of inpatient beds? Available beds would be used to the optimum for only major surgical purposes of all specialties in tertiary specialty hospitals, and non- major surgical and elective cases will be treated in secondary care hospitals as an outpatient and very essentially required cases as in Inpatients. The rest of the cases will be treated in primary care centers as an outpatient and mostly at home of the patient itself. There will be many healthcare guiding centers or booths at different localities on similar lines like wending machines and bank ATMs to provide investigations, diagnostic, consultations, treatment, prescription, and delivery of medicines.
348	How AI, ML and Robotics can transform Healthcare?	Healthcare Transformation through Technology e.g., AI, ML, and Robotic: AI coupled with robotics and machine learning is a breakthrough dedicated to transforming healthcare, brings together high-quality peer-reviewed research and impactful content dedicated to the advancement of artificial intelligence, automation, and robotics in healthcare delivery, education, technology, innovation, and discovery. The concepts of the future, debate current models and provide an invaluable resource of best practices for everyone involved in

		healthcare is concerned with the transformation. AI, automation, and robotics, together with telemedicine, sensors, and other technologies will improve patient outcomes, increase productivity, and expand access to care
349	How modification of records system along with AI, ML, & Robotics help the to provide best possible care?	Health Information Management System: The traditional medical record including electronic health record system along with AI, ML and Robotics will be modified to practical methods to originate the information that would assist the healthcare providers to take required measures in providing the best possible swift, safe, quality, and cost contained care
350	How many categories of HIM professionals and with what educational background they work?	Role of Health Information Manager: There would be three categories of HIM professionals e.g., a. Managerial; b. Supervisory and c. Operational and each category will have a different educational background. Though all the three categories will have similar basic professional knowledge and skills; however the supervisory and managerial will add additionally specialized knowledge and skills by undertaking special PG certificates, diplomas, or degrees.
351	How the HIM can help in swift measures in controlling prior to any endemic damage is done?	And thorough information on disease pattern and trends by concurrently analyzing the data to discover any variation from normal will help in swift measures in controlling prior to any endemic damage is done. In order to produce innovative HIM professionals to meet the needs of the 21 st century, it is imperative that educational program must encompass with most pioneering theoretical and practical programs in HIM education.
352	What evaluation methods will help to find deficiencies of student?	Evaluation Methods: Regular assessment of theoretical lectures, lab work, and assignments and hands-on practical work at hospitals and project work. Student deficiencies are identified and corrected.
353	What is the role of HIM Professionals in support of efficient patient care?	The Need of HIM Professional: The HIM professionals are experts in processing, analyzing and reporting information vital to the healthcare industry. HIM professionals have a great role in initiating and maintaining documentation in manual or electronic that will support inefficient patient care helps the physician in his clinical management and the hospital depends on health information to monitor the performance of all the professionals quantitatively and qualitatively.
354	Why new thinking has become essential in HIM education and HIM functions?	The dramatic change in health information management demands new thinking, about how we educate tomorrow's professionals. Redefining roles, competencies, and educational progression should be the foundation of the College of HIM Education. When tomorrow's graduates enter the HIM workplace, they will have to be ready for the e-HIM environment and newly Emerging exigencies such as COVID-19 Pandemic. And the HIM program objective should be to develop curriculum that would meet the HIM professional with required competencies.
355	Why a Mock-up (Simulation) MR Laboratory at the college site?	Mock-up (Simulation) Medical Record Laboratory at the College Site: The mock-up medical record laboratory is essentially required to provide a student with the real-life experience in areas of maintaining and managing medical records (Health Information) Department. The student will have a clear concept of the hospital medical record system;

		they will have a better understanding when their hands-on different sections of the Medical Record Department. They will be able to absorb and learn with ease. This exposure will give them the opportunity to critical exam and learn the systems, methods, and procedures that are being practiced in the hospitals. Therefore, prior to posting to hospital fieldwork, the exposure in the mock-up lab will allow spending more time on important sections in MRD.
356	When the HIM student to be posted to the Moc-up lab?	Generally , students can be posted to the “Mock-up” lab from the 2 nd or 3 rd year onwards and to the hospital from the 4 th year. With this mechanism, the students will have a clear idea about the sections and type of work they are going to do and learn in the hospitals. First of all, they will be too curious and critical to analyze the system practiced in the hospital their theoretical knowledge and exposure to the “mock-up” lab will help them extremely and will motivate the students to be involved with the system effectively
357	What is required to be prepared for Directed Practice at the Hospital Site?	Directed Practice at the Hospital Site: The Directed Professional Practice Internship and Project Handbook needs to be prepared at par with the international standards universities to help the students/interns, mentor or supervisor or adviser and the hospital or health institution where the intern gets the directed practice under the authorized supervisor/s the required practice.
358	How professional practice help in producing HIM and Health Informatics Professionals?	The professional practice is designed to offer experience in a medical record department or (HIM department) that develop the student/intern’s cognitive, effective and psycho-motor skills to produce a qualified Health Information Management & Health Informatiques Professionals
359	What sections of HIM department the students should be exposed?	The HIM department is a hub of hospital organization; has many sections; the work performed by different categories of staff; some are operational, supervisory, and managerial levels. The students have to expose to all the sections without fail as each section /division has some important functions to carry out. Upon completion of Directed Practice at Mock-up lab and at hospitals /health institution, the student should be able to manage the HIM department effectively and efficiently.
360	What is the main purpose of innovative HIM education?	The idea of innovative HIM education with mock-up lab and practical training to encompass the syllabus and course content to enable the HIM student to gain utmost knowledge, skills and required attitude to deal with the latest technology and challenging issues faced by the hospitals in view of spiraling cost and high expectations of the quality of care by patients.
361	What change does the HIM leader with digital information bring?	The HIM leader with digital information has to bring change by playing a vital role to monitor concurrently in identifying the pattern of existing diseases and newly emanated diseases so that healthcare providers can take instant measures to control the diseases before it’s become endemic or pandemic. Other measures are healthcare cost and improve efficiency to accomplish HIM application and popularization of HIM in the global healthcare environment.
The following information is taken from the Model Curriculum Handbook by the Ministry of Health and Family Welfare, Govt. India Allied Health Section 2023.		

362	Who is Allied Healthcare Professionals (AHP)?	AHPs, with a range of skills and expertise, play key roles within the National Health Service, working autonomously, in multi-professional teams in various settings. All of them are first-contact practitioners and work across a wide range of locations and sectors within acute, primary and community care. Australia's health system is managed not just by their doctors and nurses, but also by the 90,000 university-trained, autonomous AHPs vital to the system.
363	What is the biggest impediment to provide Universal Health Coverage?	As the Indian government aims for Universal Health Coverage, due to the lack of skilled human resources, proving to be the biggest impediment in its path to achieving targeted goals. The benefits of having AHPs in the healthcare system are still unexplored in India.
364	Despite the huge benefits of AHPs still India depend on doctor-centric approach?	Although an enormous amount of evidence suggests that the benefits of AHPs range from improving access to healthcare services to significant reduction in the cost of care, though the Indian healthcare system still revolves around the doctor-centric approach.
365	What learning goals are to be included in the undergraduate education program on the basis of performance?	The learning goals and objectives of the undergraduate and graduate education program will be based on the performance expectations. They will be articulated as learning goals (why we teach this) and learning objectives (what the students will learn). Using the framework, students will learn to integrate their knowledge, skills and abilities in a hands-on manner in a professional healthcare setting.
366	What are Learning Goals?	Despite having the required degree; and involvement in various levels; the learning goals are divided into nine key areas; 1.1. Clinical care, 2. Communication, 3. Membership of a multidisciplinary health team, 4. Ethics and accountability at all levels (clinical, professional, personal, and social),5. Commitment to professional excellence, 6. Leadership and mentorship; 7. Social accountability and responsibility,8. Scientific attitude and scholarship (only at higher level- PhD); 9. Lifelong learning.
367	What commitment should have to achieve professional excellence?	The student should have the following commitment to achieve professional excellence. The student will execute professionalism to reflect in his/her thought and action a range of attributes and characteristics that include technical competence, appearance, image, confidence level, empathy, compassion, understanding, patience, manners, verbal and non-verbal communication, an anti-discriminatory and non-judgmental attitude, and appropriate physical contact to ensure safe, effective and expected delivery of healthcare.
368	When and why student should take Leadership and mentorships	The student must take on a leadership role where needed in order to ensure work productivity and customer satisfaction. They must be able to respond in an autonomous and confident manner to planned and uncertain situations and should be able to manage themselves in the absence of a supervisor effectively. They must maximize opportunities to assist in the delivery of healthcare services.
369	What ate the social accountability and responsibility of AHP student?	The students will recognize that allied and healthcare professionals need to be advocates within the health care system, to judiciously manage resources, and to acknowledge their social accountability. They have the mandate to serve the community, region, and the nation and will hence direct all research and service activities towards

		addressing their priority health concerns.
370	Why students of AHP to be committed?	The student of AHP should be committed to continuous improvement in skills and knowledge while harnessing modern tools and technology.
371	Why HIM professional holds so much importance?	A Health Information Management (HIM) Professional is one of the key positions in a healthcare organization responsible for the management of various health-related information of patients that is generated within the healthcare system. The HIM involves maintaining, collecting, analyzing, protecting, and disseminating manual and digital medical information essential for the delivery of quality care.
372	What WHO states about the health information?	The World Health Organization states that the proper collection, management, and use of information within the healthcare systems will determine the system's effectiveness in detecting health problems, defining priorities, identifying innovative solutions, and allocating resources to improve health outcomes.
373	What broad spectrum of information covers by Health Information Management?	Health Information Management covers a broad spectrum of information pertaining to the health of the people generated within or outside a healthcare system. Every day, tens of thousands of people across the country visit various healthcare facilities, and these facilities generate a huge volume of information pertaining to people's health. The majority of healthcare data of a person is captured in a medical record manually or digitally maintained and this includes a wide range of information such as socio-demographic details, family history, past and present illness, physical findings, investigation reports, diagnosis, treatment, medication, etc. Proper management of such vital health information is crucial for patients and physicians for continuity of care as well as beneficial for different purposes: health insurance, statistics, research, healthcare administration, policy formulation, public health management, medico-legal cases, etc.
374	Why the HIM professionals are essential for healthcare settings?	The HIM professionals are essential for all healthcare settings to generate reports and records about patient care, design and manage health information systems, maintain security and legal aspects of patient records, and establish appropriate procedures to protect patient data. A well-trained and skilled HIM professional would be able to take up various challenging positions in public and private hospitals, public health services, the health insurance sector, healthcare IT & research organizations, and education institutions
375	Definition of Health Information Management Professional?	A Health Information Management technologist is the person who compiles, processes, and maintains the medical records of hospital and clinic patients in a manner consistent with medical, administrative, ethical, legal, and regulatory requirements of the health care system. He/she processes, maintains, compiles, and reports patient information for health requirements and standards in a manner consistent with the healthcare industry's numerical coding system
376	What important tasks should be included in any education program while	When developing any educational program, it is necessary that it should be planned such that it is outcome-based, and meets not just the local and national manpower requirements, but also provides personal satisfaction and career potential for professionals with supporting

	making the syllabus and course content?	pathways for their development. One of the major changes is the paradigm shift of the focus from traditional theoretical knowledge to one on skills- and competency-based education and training. Optimal education /training require that the student is able to integrate knowledge, skills, and attitude in order to be able to perform a professional act adequately in a given situation.
377	When Exist / Licensure Exam is required for whom?	There shall be a third-party exit/licensure exam at the end of the Internship (4th year) for the Bachelor's program or at the end of the 2nd year for the PG program as appropriate. This process will be facilitated/carried out in adherence to the standards established by the regulator
378	What is the purpose of Faculty Development Programs (FDP)?	Faculty development programs (FDP) should be provided by the institute and undertaken by the faculty mandatorily on a regular basis. Every academic year faculty must attend a minimum of one FDP relevant to their professional domain. FDP programs can comprise any one of the following: workshops, conferences, seminars, webinars, certificate programs, training programs, continuing professional education, etc.
379	Why to teach the students to perform the manoeuvres in simulation lab?	At the end of this topic, focus should be to teach the students to perform the manoeuvres in simulation lab and to test their skills with focus on airways management and chest compressions. At the end of the foundation course, each student should be able to perform and execute/operate on the above mentioned modalities.
380	What is the objective of teaching Research Methodologies and Biostatistics?	The objective of teaching Research Methodology and Biostatistics is to help the students understand the basic principles of research and methods applied to draw inferences from the research findings. 1. Introduction to research methods 2. Identifying research problem 3. Ethical issues in research; 4. Research design; 5. Basic Concepts of Bio statistics; 6. Types of Data; 7. Research tools and Data collection methods; 8. Sampling methods; 9. Developing a research proposal
381	What principals of Management course to provide?	The course principles of management is intended to provide knowledge about the basic principles of Management. The following are to be taught to the student. 1. Introduction to management; 2. Strategic Management; 3/Foundations of Planning; 4. Planning Tools and Techniques; 5. Decision Making, conflict and stress management;6. Managing Change and Innovation' 7. Understanding Groups and Teams; 8. Leadership
382	What topics are covered in General Biostatistics?	General Bio-statistics should cover the following topics • Definition of Statistics and Bio statistics; • Frequency Distribution: Measures of Central Tendency – Arithmetic Mean, Median and Mode for un-grouped and grouped data; • Presentation of data: Bar diagram, Pie Diagram, Histogram, Frequency polygon, Frequency curve, and Line diagram; • Measures of Variation: Range, Inter Quartiles, Mean Deviation, Standard Deviation Coefficient

		<p>of Variation; • Probability: Definitions of Classical Probability (Priori), and Frequency, Probability; (Posteriori), Addition, and Multiplicative Theorems of Probability; • Probability Distribution: Binomial distribution, Poisson distribution and Normal distribution</p> <p>• Sampling- Definition: Population and simple Sampling, Simple Random Sampling; Stratified Random Sampling, Systematic Random Sampling and Cluster Sampling; • Correlation and Regression: Scatter Diagram, Linear Correlation and Linear Regression; Equation Test of Significance – Procedure Test of Significance for large samples and for small samples Chi-square Test – Testing for association Misuse of Chi-square Test</p>
383	Who and what the Health Information Management serves?	<p>Health Information Management serves the healthcare industry and the public by managing, analyzing, and utilizing the data vital for patient care and making the data accessible to healthcare providers. Enhancing individual patient care through timely and relevant information is one of the primary goals for Health Information Management Technology.</p> <p>1. Development of Health Care Information</p>
384	What are special characteristics of Leadership change?	<p>Change Leadership to develop a systems-based way of thinking about leadership and how people function in the workplace, self-assess leadership thinking and behavior, establish goals for a higher level of leadership functioning, and integrate System-based Leadership and Change Management with models of change management and transition. Also, identify patterns of behavior that sabotage change in your system and internalize behaviour for leading change in the organization.</p>
385	What topics related to Internet as part of Computer Skills?	<p>Computer skills related to the Internet: • Define the Internet; • How the Internet works; • Internet capabilities and limitations; • How to connect to the Internet via modem ISDN, etc.; • Navigate the World Wide Web; • Identify services and tools offered on the Internet; • Use services and tools offered on the Internet; • Explain bookmarks; • Safety</p>
386	What topics related to Email as part of Computer Skills?	<p>Computer Skills related to Email: • Define electronic mail</p> <p>• Compose electronic messages; • Send electronic messages using appropriate format; • Transmit document using electronic mail system</p>
387	What topics related to Network as part of Computer Skills?	<p>Basic knowledge of networks: • Explain communications standards</p> <p>• Describe network structures; • Explain network types and protocols</p> <p>• Explain network connectivity; • Explain the function of servers in a graphic network; • Describe various network operating systems; • Explain the difference between network software and individual use software; • Use a network to access, file, and store files</p>
388	What are information	<p>Information processing activities are: • Key, process, print and store text and data information using integrated software; • Troubleshoot</p>

	processing activities as part of Computer Skills?	basic computer malfunctions • Load media devices; • Set up print devices; • Operate scanner devices; • Operate Print devices; • Maintain print devices; • Monitor peripheral equipment operations
389	What topics related to Operating Systems as part of Computer Skills?	Operating Systems is to • Identify operating systems and their attributes (i.e., DOS, Unix, Macintosh, Windows); • Identify the advantages and disadvantages of the computer to individuals and business; • Identify the roles and equipment used for input, processing, and output in an information; system; • Identify correct safety procedures
390	What Demonstrate basic computer literacy as part of Computer Skills?	Demonstrate basic computer literacy include: • Create directories/folders and sub-directories; • Format disks; • Manipulate files (copy, rename, delete); • Keyboard proficiently by touch.
391	What professional competency HIM professional should possess?	Health Information Management (HIM) professionals play a crucial role in managing health information systems of the healthcare institutions and ensuring the confidentiality, integrity, and availability of healthcare data to all stakeholders. They are expected to adhere to the code of professional conduct to maintain the highest standards of ethics and professionalism. The key aspects of professional conduct of health information professionals include; the maintenance of confidentiality and integrity, meeting the compliance and quality requirements, communicating and collaborating with the stakeholders, ongoing professional development to meet the industry requirement, and fulfilling the professional expectations of the healthcare institution /industry.
392	Explain HIM professional expertise?	Health information management is a combination of business, science, and information technology. These professionals are managers: experts in processing, analyzing and reporting information vital to the health care industry, respected staff members who interact daily with the clinical and administrative staff, all of whom depend on health information to perform their jobs. A blend of business and computer expertise, health information management links health care clinicians with information technology and is the bridge between patients' health information and health insurers, state and central government, and other regulating agencies.
393	Where HIM professionals work	HIM professionals do not just work in hospitals. They work for accounting firms, insurance companies, information systems vendors,

	other than hospitals?	government agencies, pharmaceutical research companies, and others.
394	What are basics of Fundamentals of Computer Applications?	The basics of Fundamentals of Computer include Basics of Information Technology Introduction to Information Technology Introduction to computers, Hardware, Software, Microsoft Windows, Windows Accessories, Control Panel, Multi – Tasking Features of Windows, Microsoft Word (Basics, Formatting, Tables, Page design. Mail merges and creating documents), MS-PowerPoint (Toolbars, Drawing Palette, Working; with slides), MS-Excel (Introduction Cell formatting, Charts and graphic objects, Database, Pivot table, Data validation, Dynamic data range and Controls, , File protection, what if analysis and templates), Assignment/Revision, To design and develop various standardized formats of patient health records.
395	What are the HIM Professional Competencies?	Professional Competencies as HIM professionals play a crucial role in managing the health information systems of the healthcare institution. They are expected to embody the highest standards of ethical behavior, competence, and professionalism in the field of health information management. This includes upholding patient confidentiality and privacy, complying with legal and regulatory requirements, and maintaining the integrity and accuracy of health information. They should continuously seek opportunities for professional development and stay updated with industry trends and best practices. Collaboration, effective communication, and a respectful approach in working with colleagues, healthcare professionals, and other stakeholders are essential for a Health Information Management Professional. They are required to actively contribute to the advancement of the health information management profession, engage in research and quality improvement initiatives, and advocate for the responsible and ethical use of health information.
396	Describe the Job Description of Assistant HIM.	Job Description; An Assistant HIM should be able to:· Collect and maintain health record data’ · Apply ICD codes as per the guidelines’ · Identify, compile, abstract, and code patient data, using standard classification systems’ · Assign the patient to diagnosis-related groups (DRGs), using appropriate computer Software; · Enter data, such as demographic characteristics, history and extent of disease, diagnostic; procedures, or treatment into computer; · Comply with ethical aspects of health records and the information they contain; · Utilize basic descriptive, institutional healthcare statistics;· Process patient admission or discharge documents; · Transcribe medical reports.
397	Describe the Job Description of Senior Assistant HIM.	Job Description: A Senior Health Information Management Assistant should be able to: • Verify the documentation in the health record is timely, complete, and accurate; • Retrieve patient health information for physicians, technicians, or other medical; personnel. • Identify the legal use of health records and relevant documents; • Identify discrepancies between documentation and disease coding; • Resolve or clarify codes or diagnoses with conflicting, missing, or unclear information; by consulting with doctors or others or by participating in the coding team's regular meetings.

398	Describe the Job Description of HIM Technologist.	Job Description: A Health Information Management Technologist should be able to:• Verify that documentation in the health record supports the diagnosis and reflects the patient’s progress, clinical findings, and discharge status • Manage clinical indices/databases/registries • Utilize appropriate technology for data collection, storage, analysis, and reporting of health information. • Apply data extraction methodologies • Identify the threats to data integrity and validity • Manage health information for reimbursement purpose
399	Describe the Job Description of HIM Officer.	Job Description: A HIM Officer should be able to: · Interpret health information standards; · Evaluate the accuracy of morbidity, mortality, and procedural coding; · Analyze health information needs of stakeholders across the healthcare organization; · Evaluate health care data to create meaningful presentations; · Analyze legal concepts and principles to the practice of HIM; · Contribute in the development of operational policies and procedures for health information exchange · Release information to persons or agencies according to regulations
400	Describe the Job Description of an Assistant .Manager HIM.	Job Description: An Assistant Manager (HIM) should be able to: · Interpret terminologies, vocabularies, and classification systems · Examine required documentation and record structures · Comply with research administrative processes and policies · Oversee policies and technologies to protect data integrity · Evaluate staffing requirements and their performance · Analyze statistical data for decision-making · Protect the security of medical records to ensure that confidentiality is maintained · Analyze the security and privacy implications of electronic health data · Evaluate health information systems and data storage requirements
401	Describe the Job Description of Deputy HIM Manager.	Job Description: Deputy Manager (HIM) should be able to:• Identify data standard policies for exchange of health information • Evaluate data to create meaningful presentations • Ensure a privacy and security infrastructure • Create an environment to ensure compliance • Apply principles of management in the health information services • Perform quality assessment health information systems • Demonstrate workflow concepts
402	Describe the Job Description of HIM Manager.	Job Description: A HIM Manager should be able to: • Monitor, assess and ensure effective use the use of department resources. • Develop and maintain computerized record management system processes • Develop and implement organizational policies and procedures for patient data services • Oversee staff operations, business planning and budget development • Plan and direct the health information management service areas, ensuring compliance with national and state regulatory requirements

Annexure -I
Standardized Abbreviations with single meaning

Abbreviation	Expansion	Abbreviation	Expansion
A	ASSESSMENT	A/B	ACID –BASE RATIO
A/G	ALBUMIN – GLOBULIN RATIO	A/O	alert and oriented
A2	AORTIC SECOND SOUND	AA	APLASTIC ANEMIA
AAA	ABDOMINAL AORTIC ANEURYSM	AAR	ANTIGEN ANTI GLOBULIN REACTION
AAS	AORTIC ARCH SYNDROME	AB	ASTHMATIC BRONCHITIS
ABDHYST	ABDOMINAL HYSTERECTOMY	ABE	ACUTE BACTERIAL ENDOCARDITIS
ABG	ARTERIAL BLOOD GASES	ABO	BLOOD GROUPS (Name for Agglutinogens)
ABP	ARTERIAL BLOOD PRESSURE	ABW	ACTUAL BODY WEIGHT
AC	BEFORE MEALS (ANTE CIBUM)	ACC	ADENOID CYSTIC CARCINOMA
ACE	ADRENO-CORTICAL EXTRACTION	ACH	ADRENAL CORTICAL HORMONE
ACM	ALBUMIN – CALCIUM – MAGNESIUM	ACS	ANTERETICULAR CYTOTOXIC SERUM
ACT	ACTIVATED COAGULATION TIME	ACTH	ADRENO CORTICO TROPIC HORMONE
ACVD	ACUTE CARDIOVASCULAR DISEASE	AD	RIGHT EAR (AURIS DEXTRA)
ADA	ANTERIOR DESCENDING ARTERY	ADH	ANTIDIURETIC HORMORE
ADHD	ATTENTION-DEFICIT HYPERACTIVITY DISORDER	Adlib	AS DESIRED (ad libitum)
ADR	allergic drug reaction	ADS	ANTIBODY DEFICIENCY SYNDROME
AED	automatic external defibrillator	AEG	AIR ENCEPHALOGRAM
AF	atrial fibrillation	AFG	ACID FAST BACILLI
AFT	ACUTE FOLLICULAR TONSILLITIS	AGA	APPROPRIATE FOR GESTATIONAL AGE
AGL	ACUTE GRANULOCYTIC LEUKEMIA	AGN	ACUTE GLOMERULO NEPHRITIS
AH	ARTERIAL HYPERTENSION	AHA	ACQUIRED HEMOLYTIC ANAEMIA
AHD	ARTERIOSCLEROTIC HEART DISEASE	AHF	ACUTE HEMOPHILIC FACTOR
AHT	AUGUMENTED HISTAMIN TEST	AI	AORTIC INCOMPETENCE
AIDS	ACQUIRED IMMUNME DEFICIENCY SYNDROME	AIHA	AUTO-IIMUNE HEMOLYTIC ANAEMIA
AJ	ANKLE JERK	AK	ABOVE KNEE
AKA	ABOVE KNEE AMPUTATION	ALD	alcoholic liver disease
ALKP	alkaline phosphatase	ALL	ACUTE LYMPHOCYTIC LEUKEMIA

ALOC	altered level of conscious	ALS	Amyotrophic lateral sclerosis
ALT	alanine amino-transaminase	Alt.dieb	EVERY OTHER DAY (alternis diebus)
Alt.Hor	EVERY OTHER HOUR (alternis horas)	Alt.noc	EVERY OTHER NIGHT
AM	AUDITORY MEATUS	AMA	AGAINST MEDICAL ADVICE
AMI	ACUTE MYOCARDIAL INFARCTION	AML	ACUTE MYELOBLASTIC LEUKEMIA
AMOL	ACUTE MONOCYTIC LEUKEMIA	ANT.	ANTERIOR
AOM	ACUTE OTITIS MEDIA	AP	ANTERIOR PITUITARY
A-P	ANTERIOPOSTERIOR	APC	ASPIRIN, PHENACETIN, CAFFEINE
APH	ANTE-PARTUM HEMORRHAGE	APTT	ACTIVATED PARTIAL THROMBOPLASTIN TIME
AR	AORTIC REGURGITATION	ARD	ACUTE RESPIRATORY DISEASE
ARDS	acute respiratory distress syndrome	ARF	ACUTE RESPIRATORY FAILURE
ARM	ARTIFICIAL RUPTURE OF THE MEMBRANES	ARMD	age related macular degeneration
AS	AORTIC STENOSIS	ASAP	as soon as possible
ASCVD	arteriosclerotic cardiovascular disease	ASD	ARTERIAL SEPTAL DEFECT
ASHD	ARTERIO SCLEROTIC HEART DISEASE	ASO	ARTERIO SCLEROSIS OBLITERAL
Astig	astigmatism	ATD	ASPHYXIATING THORACIC DYSTROPHY
Atrfig	atrial fibrillation	ATS	ANTITETANIC SERUM
AUR	acute urinary retention	AV	arterioventricular
AVF	ARTERIOVENOUS FISTULA	AVH	ACUTE VIRAL HEPATITIS
AVM	arteriovenous malformation	AVnode	atrioventricular node
ax	axillary	b.i.d	TWICE A DAY (BIS IN DIE)
B/K	BLADDER KIDNEY (SCAN RATIO)	B12	VITAMIN B-12
Ba	BARIUM	BB	BLOOD BANK
BBA	BORN BEFORE ARRIVAL	BBB	BUNDLE BRANCH BLOCK
BC	blood culture	BCG	BACILLE CALMETTE GUERIN (VACCINE)
BG	blood glucose	BGTT	BORDERLINE GLUCOSE TOLERANCE TEST
bicarb	bicarbonate	BID	BROUGHT IN DEAD
BIH	BENIGN INTRACRANIAL HYPERTENSION	bilat	bilateral
bili	bilirubin	BIPAP	Biphasic Positive Airway Pressure
BJM	BONES, JOINTS, MUSCLES	BK	below the knee
BKA	BELOW KNEE AMPUTATION	BLE	both lower extremities
Bleph	blepharoplasty	BLS	Basic Life Support

BM	BOWEL MOVEMENT	bmd	bone mineral density
bmp	bone mineral density	BMP	Basic Metabolic Panel
BMR	BASAL METABOLIC RATE	BMT	bone marrow transplant
BOM	BILATERAL OTITIS MEDIA	BP	BLOOD PRESSURE
BPD	Bipolar Disorder	BPH	BENIGN PROSTATE HYPERTROPHY
bpm	beats per minute	Br	BRONCHITIS
BR	bed rest	BrPn.	BRONCHO PNEUMONIA
BRVO	brance retinal vein occlusion	BS	bowel sounds, blood sugar
BSA	body surface area	BSO	bilateral salpingo-oophorectomy
BSOM	BILATERAL SUPPURATIVE OTITIS MEDIA	BSR	BLOOD SEDIMENTATION RATE
BT	BLEEDING TIME	BTL	Bilateral Tubal Ligation
BUN	BLOOD UREA NITROGEN	BW	BIRTH WEIGHT
Bx.	BIOPSY	C	CENTIGRADE (CENTUM GRADUS)
C&D	CYSTOSCOPY AND DILATATION	C&P	cystoscopy & pyelogram
C&S	culture and sensitivity	c/o	complaining of
C1,C2	FIRST, SECOND CERVICAL VERTEBRA	CA(Ca)	CARCINOMA
Ca+	calcium	CABG	coronary artery bypass graft
CAD	CORONARY ARTERY DISEASE	CAHD	CORONARY ATHEROSCLEROTIC HEART DISEASE
CAP	Cancer of the prostate,	CAPD	continuous ambulatory peritoneal dialysis
cat	cataract	CAT	COMPUTERIZED AXIAL TOMOGRAPHY
cath	catheter, catheterization, catheterized	CAV	CONGENITAL ABSENCE OF VAGINA
CB	CHRONIC BRONCHITIS	CBA	CHRONIC BRONCHITIS WITH ASTHMA
CBC	COMPLETE BLOOD COUNT	CBC&diff	COMPLETE BLOOD COUNT AND DIFFERENTIAL
CBD	COMMON BILE DUCT	CC	CHIEF COMPLAINT
CCA	calcium channel antagonist	CCB	calcium channel blocker
CCF	CONGESTIVE CARDIAC FAILURE	CCU	CORONARY CARE UNIT
CD&LSpine	cervical, dorsal and lumbar spine	CDC	Center for Disease Control
CDH	CONGENITAL DISLOCATION OF THE HIP	CEA	CARCINOEMBRYONIC ANTIGEN
cerv	cervical	CF	cystic fibrosis
CHA	CONGENITAL HYPOPLASTIC ANEMIA	CHB	COMPLETE HEART BLOCK
CHD	CORONARY HEART DISEASE	CHF	CONGESTIVE HEART FAILURE

CHL	conductive hearing loss	CHPX	chickenpox
chr	chronic	CHS	CHEDIAK-HIGHSHI SYNDROME
CHTN	chronic hypertension	CIC	clean intermittent catheterization
CIS	carcinoma in-situ	ck	check, creatine kinase
CLBBB	COMPLETE LEFT BUNDLE BRANCH BLOCK	Clgl	CORRECTION WITH GLASSES
CLL	CHRONIC LYMPHOCYTIC LEUKEMIA	CM	COSTAL MARGIN
CML	CHRONIC MYELOCYTIC LEUKEMIA	CMP	Comprehensive Metabolic Panel
CMR	CEREBRAL METABOLIC RATE	CMS	circulation, movement, sensation
CMV	cytomegalovirus	CNI,CNI,etc.	cranial nerve I,II, etc
CNS	CENTRAL NERVOUS SYSTEM	CO2	CARBON DIOXIDE
COAD	CHRONIC OBSTRUCTIVE AIRWAYS DISEASE	COAG	chronic open angle glaucoma
COLD	CHRONIC OBSTRUCTIVE LUNG DISEASE	COPD	CHRONIC OBSTRUCTIVE PULMONARY DISEASE
CP	cerebral palsy	CPAP	continuous positive airway pressure
CPD	CEPHALO PELVIC DISPROPORTION	CPK	CREATININE PHOSPHOKINASE
CPR	CARDIO PULMONARY RESUSCITATION	CPS	Chronic Paranoid Schizophrenia
CPT	chest physiotherapy	CRBBB	COMPLETE RIGHT BUNDLE BRANCH BLOCK
CRF	CHRONIC RENAL FAILURE	CRH	CORTICOTROPHIN RELEASING HORMONE
CRI	chronic renal insufficiency	CSF	CEREBRO SPINAL FLUID
CSOM	CHRONIC SUPPURATIVE OTITIS MEDIA	CSSD	CENTRAL STERILE SUPPLY DEPARTMENT
CST	CONVULSIVE SHOCK THERAPY	CT	CEREBRAL THROMBOSIS
CTA	clear to auscultation	CV	CARDIO VASCULAR
CVA	CARDIO VASCULAR ACCIDENT	CVD	CARDIO VASCULAR DISEASE
CXR	chest x-ray	D&C	DILATATION AND CURETTAGE
D&D	diarrhea and dehydration	D&V	DIARRHOEA AND VOMITING
DDD	degenerative disc disease	DES	dry eye syndrome
DI	DIBETES INSIPIDUS	DIC	DIFFUSE/DISSEMINATED INTRAVASCULAR COAGULATION
DKA	diabetic ketoacidosis	DLE	DISCOID LUPUS ERYTHEMATOUS
DM	DIABETIC MELLITUS	DNR	do not resuscitate
DNS	DEFLECTED/DEVIATED NASAL SEPTUM	DOA	DATE OF ADMISSION
DOB	DATE OF BIRTH	DOC	DATE OF CONFINEMENT

DOD	DATE OF DISCHARGE OR DEATH	DOE	dyspnea on exertion
DRG	diagnostic-related group	DTP	DIPHTHERIA, TETANUS & PERTUSSIS
DTR	deep tendon reflexes	DU	DUODENAL ULCER
DUB	DYSFUNCTIONAL UTERINE BLADDER	DVT	DEEP VAIN THROMBOSIS
Dx	DIAGNOSIS	EAC	external auditory canal
EAM	EXTERNAL AUDITORY MEATUS	EBL	estimated blood loss
EBV	Epstein-Barr virus	ECC	Emergency Care Center
ECCE	extracapsular cataract extraction	ECG	ELECTRO CARDIO GRAM
echo	echocardiogram	ECS	ELECTRO CONVULSIVE SHOCK
ECT	ELECTRO CONVULSIVE THERAPY	ED	emergency department
EDC	EXPECTED DATE OF CONFINEMENT	EDD	EXPECTED DATE OF DELIVERY
EEG	ELECTRO ENCEPHALOGRAM	EENT	eyes, ears, nose and throat
EGD	esophagogastroduodenoscopy	EH	ESSENTIAL HYPERTENSION
EKG	electrocardiogram	ELISA	enzyme-linked immunosorbent assay
EMG	ELECTRO MYOGRAM	EMI	ELECTROMAGNETIC INTERFERENCE
EMS	Emergency Medical Services	EN	EMMETROPIA
ENT	EAR, NOSE AND THROAT	ENUC	enucleation
EOM	extraocular movement	EPAP	Expiratory Positive Airway Pressure
ER	EMERGENCY ROOM	ERCP	endoscopic retrograde cholangiopancreatography
ERG	ELECTRO RETINO GRAM	ERT	estrogen replacement therapy
ESLD	end stage liver disease	ESR	ERYTHROCYTE SEDIMENTATION RATE
ESRD	end stage renal disease	EST	electroshock therapy
EUA	EXAMINATION UNDER ANESTHESIA	F/U	FOLLOW UP
FB	FOREIGN BODY	FBS	FASTING BLOOD SUGAR
FD	FORCEPS DELIVERY	FDIU	FETAL DEATH IN UTRO
FEV1	forced expiratory volume in one second	FFP	fresh frozen plasma
FH	FAMILY HISTORY	FHR	FERAL HEART RATE
FHS	FETAL HEART SOUND	FIF	forced inspiratory flow
FOB	fecal occult blood test	FSBS	Finger Stick Blood Sugar
FSH	FOLLICLE STIMULATING HORMONE	FTM	FRACTIONAL TEST MEAL
FTND	FULL TERM NORMAL DELIVERY	FUB	functional uterine bleeding
FUO	FEVER OF UNKNOWN ORIGIN	FWB	full weight bearing
Fx	fracture	G/S	GLUCOSE AND SALINE

GA	GENERAL ANESTHESIA	GAD	generalized anxiety disorder
GB	GALL BLADDER	GC	gonorrhea, gonococcus
GCS	Glasgow Coma Score	GERD	gastroesophageal reflux disease
GFR	glomerular filtration rate	GFR	GLOMERULAR FILTRATION RATE
GG	Gravida	GGT	gamma glutamyl transferase
GGTP	gamma glutamyl transpeptidase	GH	growth hormone
GH	GROWTH HORMONE	GI	gastrointestinal
GIT	GASTRO INTESTINAL TRACT	GN	glomerulonephritis
GP	GENERAL PRACTITIONER	GRH	growth releasing hormone
GS	GENERAL SURGERY	GSH	GLOMERULAR-STIMULATING HORMONE
GSW	gunshot wound	GT	GLUCOSE TOLERANCE
GTT	GLUCOSE TOLERANCE TEST	G-Tube	gastrostomy tube
GU	GASTRIC ULCER	GVH	graft versus host (reaction)
GVHD	graft versus host disease	GYN	Gynecology
H&H	Hemoglobin & hematocrit	H&P	history and physical
h.s	at bedtime;	H/T	HYPERTENSION
hal	hallucinations	HAV	Hepatitis A virus
Hb	HEMOGLOBIN	HBIG	Hepatitis B immune globulin
HBP	HIGH BLOOD PRESSURE	HbsAg	hepatitis B surface antigen
HBV	Hepatitis B virus	HBW	HIGH BIRTH WEIGHT
HCG	HUMAN CHORIONIC GONADOTROPIN	HCT	HEMATOCRIT
HCV	Hepatitis C virus	HCVD	HYPERTENSIVE CARDIOVASCULAR DISEASE
HD	HEART DISEASE	HDN	HEMOLYTIC DISEASE OF THE NEWBORN
HEENT	head, eyes, ears, nose, throat	hemi	one side of the body
HF	HEART FAILURE	HGH	human growth hormone
HH	hiatal hernia	HHA	HEREDITARY HEMOLYTIC ANEMIA
HHD	HYPERTENSIVE HEART DISEASE	Hib	hemophilus influenza type B
Histo	histoplasmosis	HIV	HUMAN IMMUNODEFICIENCY VIRUS
HJR	hepatojugular reflux	HLA	human leukocyte antigen
HLA	human leukocyte antigen	HPI	HISTORY OF PRESENT ILLNESS
HRT	hormone replacement therapy	HSV	herpes simplex virus
HTLVIII	human T-cell lymphotropic virus type III	HTN	hypertensive, hypertension
HVD	HYPERTENSIVE VASCULAR DISEASE	HZ	herpes zoster
HZV	herpes zoster virus	I&A	irrigation and aspiration
I&D	INCISION AND DRAINAGE	I&O	INTAKE AND OUTPUT

I.D	Infectious Diseases	IABP	intra-aortic balloon pump
IBD	inflammatory bowel disease	IBW	ideal body weight
ICC	INTENSIVE CORONARY CARE	ICCE	intraocular cataract extraction
ICCU	INTENSIVE CORONARY CARE UNIT	ICD	INTERNATIONAL CLASSIFICATION OF DISEASE
ICD-9CM	International Classification of Diseases, 9th Edition, Clinical Modification	ICF	Intermediate care facility
ICH	intracranial haemorrhage	ICM	INTERCOSTAL MARGIN
ICP	intracranial pressure	ICS	Intercostal space
ICU	INTENSIVE CARE UNIT	ICU	Intensive care unit
IDDM	insulin dependent diabetes mellitus	IDK	INTERNAL DERANGEMENT OF KNEE
IDKJ	INTERNAL DERANGEMENT OF KNEE JOINT	IgG	Immunoglobulin G
IHD	ISHEMIC HEART DISEASE	IICP	increased intracranial pressure
IJ	internal jugular	IM	intramuscular
IMF	IDIOPATHIC MYELOFIBROSIS	IMP	IMPROVED
IOL	intraocular lens	IOP	intraocular pressure
IOT	intraocular tension	IP	INPATIENT
IPA:P	Inspiratory Positive Airway Pressure	IPPB	intermittent positive pressure breathing
IQ	INTELLIGENCE QUOTIENT	IR	internal rotation
IRV	inspiratory reserve volume	ISH	isolated systolic hypertension
ISOL	isolation	ITP	IDIOPATHIC THROMBOCYTOPENIC PURPURA
IUCD	INTRA-UTERINE CONTRACEPTIVE DEVICE	IUD	INTRA UTERINE DEVICE
IUFB	INTRA UTERINE FOREIGN BODY	IV	INTRAVENOUS
IVC	inspiratory vital capacity	IVDA	intravenous drug abuse
IVF	intravenous fluids	IVP	INTRAVENOUS PYELOGRAM
IVSD	INTERVENTRICULAR SEPTAL DEFECT	IVU	INTRAVENOUS UROGRAPHY
JBE	JAPANESE B ENCEPHALITIS	JRA	juvenile rheumatoid arthritis
J-Tube	jejunostomy tube	JVD	jugular venous distention
JVP	jugular venous pressure	KA	keratoacanthoma kcal
KJ	KNEE JERK	KUB	KIDNEY, URETER AND BLADDER
KVO	keep vein open L	L-1,L-2	FIRST, SECOND LUMBAR VERTEBRAE
LA	LOCAL ANESTHESIA	Lac	laceration
LAG	LYMPHANGIOGRAPHY	LAT	lateral
LAVH	laparoscopic assisted vaginal hysterectomy	LB	LIVE BIRTH
LBB	LEFT BUNDLE BRANCH	LBBB	LEFT BUNDLE BRANCH BLOCK

LBW	LOW BIRTH WEIGHT	LCM	LEFT COSTAL MARGIN
LDL	low density lipoprotein	LE	LEFT EYE
LE	lupus erythematosus, lower extremity	LES	lower esophageal sphincter
LFT	LIVER FUNCTION TEST	LHC	left heart catheterization
LHF	LEFT HEART FAILURE	LIH	LEFT INGUINAL HERNIA
LK	LEFT KIDNEY	LKS	liver, kidneys, spleen
LL	LEFT LUNG	LLE	LEFT LOWER EXTREMITY
LLL	LEFT LOWER LOBE (LUNGS)	LMP	LAST MENSTRUAL PERIOD
LN	lymph node	LOC	loss of consciousness, level of consciousness
LOS	length of stay	LP	LUMBAR PUNCTURE
LS	lumbosacral	LSCS	LOWER SEGMENT CESAREAN SECTION
LSD	LYSERGIC ACID DIETHYLAMIDE	LSO	left salpingo-oophorectomy
LSP	left sacrum posterior	LST	left sacrum transverse
LTH	LUTEO TROPHIC HORMONE	LUE	LEFT UPPER EXTREMITY
LUL	LEFT UPPER LOBE	LUQ	left upper quadrant
LV	LEFT VENTRICLE	LVF	LEFT VENTRICULAR FAILURE
LVH	LEFT VENTRICULAR HYPERTROPHY	MA	MENTAL AGE
MAP	mean arterial pressure	MCH	MEAN CORPUSCULAR HEMOGLOBIN
MCT	MEAN CIRCULATION TIME	MCV	MEAN CORPUSCULAR VOLUME
MD	MUSCULAR DYSTROPHY	MDA	Muscular Dystrophy Association
MFB	metallic foreign body	MFD	MID FORCEPS DELIVERY
MH	MARITAL HISTORY	MI	MYOCARDIAL INFARCTION
MMR	measles, mumps and rubella	MMSE	mini mental status exam
MR	MENTAL RETARDATION	MRI	magnetic resonance imaging
MRM	modified radical mastoidectomy	MRND	modified radical neck dissection
MS	MITRAL STENOSIS	MSW	MEDIAL SOCIAL WORKER
MTD	maximum tolerated dose	MVR	mitral valve replacement
N&V	nausea & vomiting	N/C	NO COMPLAINTS
NAD	NOTHING ABNORMAL DETECTED	NAO	nasal airway obstruction
NB	NEW BORN	NBI	NO BONE INJURY
NBM	NOTHING BY MOUTH	NBW	NORMAL BIRTH WEIGHT
ND	NORMAL DELIVERY	NEC	NOT ELSEWHERE CLASSIFIED
NED	NO EVIDENCE OF DISEASE	NFTD	NORMAL FULL TERM DELIVERY
NGT	nasogastric tube	NHL	Non-Hodgkin's Lymphoma
NI	no improvement	NICU	Neonatal Intensive Care Unit
NIDDM	non-insulin dependent diabetes mellitus	NKA	no known allergies

NKDA	no known drug allergies	NOS	NOT OTHERWISE SPECIFIED
NPO	Nothing by mouth	NS	NEUROSURGERY
NSA	no significant abnormality	NSAIDS	nonsteroidal antiinflammatory drug
NSR	normal sinus rhythm	NSS	normal saline solution
NTS	nasotracheal suction	NVD	nausea, vomiting, diarrhea
NVFC	nausea, vomiting, fever, chills and diarrhea	NYD	NOT YET DIAGNOSED
O&E	OBSERVATION AND EXAMINATION	O&P	ova and parasites
O/A	ON ADMISSION	OA	osteoarthritis
OA	OSTEOARTHRITIS	OB/GYN	Obstetrics and Gynaecology
OBG	OBSTETRICS AND GYNECOLOGY	OBS	organic brain syndrome
OCA	oral contraceptive agent	OCD	obsessive-compulsive disorder
OCG	oral cholecystogram	OCP	ova, cysts, parasites
Od	ONCE A DAY	OD	RIGHT EYE (Ocular Dexter)
OE	ON EXAMINATION	OH	Occupational Health
OH	OBSTETRIC HISTORY	OM	OTITIS MEDIA
OMD	OCULAR MEDIA	OMI	OLD MYOCARDIAL INFARCTION
OP	OUT-PATIENT	OPC	OUT-PATIENT CLINIC
OPT	ophthalmology	OPV	oral polio vaccine
OR	OPERATING ROOM	ORIF	open reduction/internal fixation
os	mouth	OS	LEFT EYE (OCULUS SINISTER)
OSA	obstructive sleep apnea	OSHA	Occupational Safety and Health Administration
OT	OPERATION THEATRE	OTO	Otolaryngology
OTT	oro-tracheal tube	OU	EACH EYE (OCULI UTERQUE)
P&A	PERCUSSION AND AUSCULTATION	P&V	PYLOROPLASTY AND VAGOTOMY
P.T	physical therapy	PA	PERNICIOUS ANEMIA
PAC	premature atrial contraction	PACU	post anesthesia care unit
PANT	POSTERO ANTERIOR	Pap	panniculoal smear
PAP	PRIMARY ATYPICAL PNEUMONIA	para	paraplegic, paralysis
PAT	PAROXYSMAL ATRIAL TACHYCARDIA	PAWP	pulmonary artery wedge pressure
PCO2	partial pressure of carbon dioxide	PCP	Pneumocystis carinii pneumonia,
PCV	PACKED CELL VOLUME	PDA	PATENT DUCTUS ARTERIOSUS
PEG	PNEUMO ENCEPHALOGRAPHY	PET	PRE-ECLAMPTIC TOXEMIA
PGH	PITUITARY GROWTH HORMONE	PH	PAST HISTORY
PHT	PULMONARY HYPERTENSION	PI	PRESENT ILLNESS

PID	pelvic inflammatory disease	PID	PELVIC INFLAMMATORY DISEASE
PIV	peripheral intravenous	PIVD	PROLAPSE INTERVERTEBRAL DISC
PK	pharmacokinetics	PM	POST-MORTEM
PMA	PROGRESSIVE MUSCULAR ATROPHY	PMB	POST MENOPAUSAL BLEEDING
PMI	POINT OF MAXIMUM IMPULSE	PMN	POLYMORPHO NUCLEAR NEUTROPHIL
PMP	PAST MENSTRUAL PERIOD	PMR	PHYSICAL MEDICINE AND REHABILITATION
PN	POST - NATAL	PNC	POST-NATAL CLINIC
PND	PAROXYSMAL NOCTURNAL DYSPNEA	PO	POST-OPERATIVE
POP	PLASTER OF PARIS	PP	POST-PARTUM
pp	AFTER MEALS (POST PRANDIAL)	PPBS	POST PRANDIAL BLOOD SUGAR
PPD	purified protein derivative (tuberculin)	PPH	POST PARTUM HEMORRHAGE
PPN	peripheral parenteral nutrition	PPU	PERFORATED PEPTIC ULCER
pr	per rectum	PRBC	packed red blood cells
PRE	progressive resistance exercise	PRN	AS REQUIRED (PRO RENATA)
PS	PULMONARY STENOSIS	PSA	prostate specific antigen
PSC	posterior subcapsular cataract	PSVT	paroxysmal supraventricular tachycardia
PSY	Psychiatry	PT	PULMONARY TUBERCULOSIS
PTCA	percutaneous transluminal coronary angioplasty	PTH	PARA THYROID HORMONE
PTT	PARTIAL THROMBOPLASTIN TIME	PU	PEPTIC ULCER
PUE	PYREXIA OF UNKNOWN ETIOLOGY	PUO	PYREXIA OF UNKNOWN ORIGIN
PV	PER VAGINUM (through the vaginum)	PVC	PREMATURE VENTRICULAR CONTRACTION
PVD	peripheral vascular disease,	PVP	PORTAL VENOUS PRESSURE
PVR	PULMONARY VASCULAR RESISTANCE	PVT	PAROXYSMAL VENTRICULAR TACHYCARDIA
pyelo	pyelonephritis	pzi	protamine zinc insulin
q.d	EVERY DAY	q.d.h	EVERY TWO HOURS
q.h	QUAQUE HORO (every hour)	q.l.d	QUARTER IN DIE (four times daily)
q.n	QUAQUE NOCTE (EVERY NIGHT)	q.n.s	INSUFFICIENT QUANTITY
Q.q	every	q.q.h	EVERY FOUR HOURS
q.s	SUFFICIENT QUANTITY	q.t.h	EVERY THREE HOURS
q.v	QUANTUM VIS (as much as desired)	qam	every morning

qpm	every evening	R.I.I.H	RIGHT INDIRECT INGUINAL HERNIA
R.O.I.H	RIGHT OBLIQUE INGUINAL HERNIA	R.O.M	RUPTURE OF MEMBRANE
R.V.H	RIGHT VENTRICULAR HYPERTROPHY	RA	RHEMATOID ARTHRITIS
RAD	RADIATION ABSORBED DOSE	RAE	right atrial enlargement
RBBB	RIGHT BUNDLE BRANCH BLOCK	RBC	RED BLOOD COUNT
RCA	RIGHT CORONARY ARTERY	RCM	RIGHT COSTAL MARGIN
RCU	RESPIRATORY CARDIAC UNIT	RD	RESPIRATORY DISEASE
RDH	RIGHT INGUINAL HERNIA	RDS	RESPIRATORY DISTRESS SYNDROME
REM	RAPID EYE MOVEMENT	RF	RHEUMATIC FEVER
RFB	RETAINED FOREIGN BODY	RFT	RENAL FUNCTION TEST
Rh.neg	RHESUS FACTOR (NEGATIVE)	Rh.pos	RHESUS FACTOR (POSITIVE)
RHC	right heart catheterization	RHD	RHEUMATIC HEART DISEASE
RHF	RHEUMATIC HEART FAILURE	RIA	RADIO IMMUNO ASSAY
RIF	RIGHT ILIAC FOSSA	RIH	RIGHT INGUINAL HERNIA
RK	RIGHT KIDNEY	RL	RIGHT LOBE
RLE	RIGHT LOWER EXTREMITY	RLL	RIGHT LOWER LOBE
RLQ	right lower quadrant	RM	RADICAL MASTECTOMY
RML	right middle lobe	RNA	RIBO NUCLEIC ACID
ROP	RIGHT OCCIPITO POSTERIOR	ROT	RIGHT OCCIPITO TRANSVERSE
RP	RETROGRADE PYELOGRAM	RPA	RIGHT PULMONARY ARTERY
RPG	retrograde pyelogram	RQ	respiratory quotient
RR	RECOVERY ROOM	RRP	radical retropubic prostatectomy
RS	RESPIRATORY SYSTEM	RSO	right salpingo-oophorectomy
RT	RADIATION THERAPY	RU	RETROGRADE UROGRAM
RUE	RIGHT UPPER EXTREMITY	RUG	retrograde urethrogram
RUL	RIGHT UPPER LOBE	RUQ	right upper quadrant
RURTI	RECURRENT UPPER RESPIRATORY TRACT INFECTION	RVF	RIGHT VENTRICULAR FAILURE
Rx	RECUOE (take)	S-1,S-2	FIRST, SECOND SACRAL VERTEBRAE
Sa	SARCOMA	SAH	subarachnoid hemorrhage
SAO2	arterial oxygen saturation	SAP	SERUM ALKALINE PHOSPHATE
SB	STILL BIRTH	SBE	subacute bacterial endocarditis
SBE	SUB ACUTE BACTERIAL ENDOCARDITIS	SBO	small bowel obstruction
SBP	systolic blood pressure	SBP	SYSTOLIC BLOOD PRESSURE
SCA	SICKLE-CELL ANEMIA	SCC	SQUAMOUS CELL CARCINOMA
SCCA	squamous cell carcinoma	SCI	SPINAL CORD INJURY
SCLC	small cell lung cancer	Scr	serum creatinine

SD	SPONTANEOUS DELIVERY	Sebderm	seborrheic dermatitis
SEDrate	sedimentation rate	SEM	systolic ejection murmur
SEP	SENILE ENLARGE PROSTATE	SGOT	SERUM GLUTAMIC OXALOACETIC TRANSAMINASE
SGPT	SERUM GLUTAMIC PYRUVIC TRANSAMINASE	SH	SERUM HEPATITIS
SH	social history	SIADH	syndrome of inappropriate secretion of antidiuretic hormone
SIC	self-intermittent catheterization	SICU	surgical intensive care unit
SIMV	synchronized intermittent mandatory ventilation	SIRS	systematic inflammatory response Syndrome
SK	seborrheic keratosis	SLE	SYSTEMIC LUPUS ERYTHEMATOSUS
SMR	SUB-MUCOUS RESECTION	SNHL	sensorineural hearing loss
SO	salpingo-oophorectomy	SOAP	subjective, objective data, assessment and plan
SOB	SHORTNESS OF BREATH	SPE	SERUM PROTEIN ELECTROPHORESIS
SPP	SUPRA-PUBIC PROSTATECTOMY	SSE	SOAPSUDS ENEMA
SSG	SPLIT SKIN GRAFT	STAT	immediately
STD	SEXUALLY TRANSMITTED DISEASE	STEMI	ST Elevation Myocardial Infarction
STOP	SUCTION TERMINATION OF PREGNANCY	SVD	SPONTANEOUS VAGINAL DELIVERY
SVG	SAPHENOUS VEIN GRAFT	SVT	SUPROVENTRICULAR TACHYCARDIA
Sx.	SYMPTOMS	T&A	TONSILLECTOMY AND ADENOIDECTOMY
T.Bill	total bilirubin	T.E.V	TALIPES EQUINOVARUS
T.I.A	TRANSIENT ISCHEMIC ATTACK	t.i.d	THREE TIMES DAILY (ter in die)
T-1.T-2	T1 and T2 are technical terms applied to different MRI methods used to generate magnetic resonance images	T-3,T-4	TRI-iodothyronine, THYROXINE
TAH	TOTAL ABDOMINAL HYSTERECTOMY	TAHBSO	total abdominal hysterectomy and Bilateral salpingo oophorectomy
TAL	TENDO ACHILLES LENGTHENING	TAO	THROMBO ANGITIS OBLITERANS
TB	TUBERCULOSIS	TBM	TUBERCULOSIS MENINGITIS
TBSE	total body skin exam	TE	tracheoesophageal
TENS	transcutaneous electrical nerve stimulation	TFT	thyroid function test
TG	triglyceride	THR	total hip replacement (Total hip arthroplasty)

TIBC	total iron binding capacity	tid	three times a day
TKA	total knee arthroplasty	TKR	TOTAL KNEE REPLACEMENT
TL	total larynegectomy	TLC	total lung capacity
TLP	total laryngophayngectomey	TLV	total lung volume
TM	tympanic membrane	TMJ	TEMPO - MANDIBULAR JOINT
TMJ	temporomandibular joint	TP	total protein
TPN	total parenteral nutrition	TPR	TEMPERATURE, PULSE AND RESPIRATION
TPUR	TRANSPERINEAL URETHRAL RESECTION	TS	THORACIC SURGERY
TSH	THYROID STIMULATING HORMONE	tsp	teaspoon
TSP	total serum protein	TSS	toxic shock syndrome
TT	TETANUS TOXOID	TTH	THYROTROPIC HORMONE
TTP	THROMBOTIC THROMBOCYTOPENIC PURPURA	TUR	TRANSURETHRAL RESECTION
TURBT	Transurethral Resection of Bladder Tumor	TURP	TRANSURETHRAL RESECTION OF PROSTATE
TVH	TOTAL VAGINAL HYSTERECTOMY	U/A	URINALYSIS
UC	ULCERATIVE COLITIS	UD	URETHRAL DISCHARGE
UDT	UNDESCENDED TESTICLE	UE	upper extremity
UGI	UPPER GASTRO-INTESTINAL	UGI	upper gastrointestinal
UL	UPPER LOBE	ULQ	upper left quadrant
UNG	OINTMENT	UOP	urine output
UOQ	upper outer quadrant	URI	UPPER RESPIRATORY INFECTION
URQ	upper right quadrant	URTI	UPPER RESPIRATORY TRACT INFECTION
US	ULTRA SOUND	USG	ultrasonography
USI	urinary stress incontinence	UTI	URINARY TRACT INFECTION
UV	ultraviolet		
V		V&D	VOMITING AND DIARRHOEA
V/H	visual hallucinations	va	visual acuity
VA	VISUAL ACUITY	VC	vocal cord,
VD	VENERAL DISEASE	VDRL	VENERAL DISEASE RESEARCH LABORATORY
VE	VISUAL EFFICIENCY	VER	visual evoked response
VF	VENTRICULAR FIBRILLATION	v-flutter	ventricular flutter
V/H	visual hallucinations	VHD	VALVULAR HEART DISEASE
VHLA	vaginal hysterectomy laparoscopically assisted	VMR	VASOMOTOR RHINITIS
VOD	veno-occlusive disease	vp	venous pressure

VRI	VIRAL RESPIRATORY INFECTION	VS	VITAL SIGNS
VSD	VENTRICULAR SEPTAL DEFECT	VT	VENTRICULAR TACHYCARDIA
V V	VARICOSE VEINS		
W			
WBAT	weight bearing as tolerated	WBC	WHITE BLOOD COUNT
WC	WHOOPING COUGH	WCC	WHITE CELL COUNT
WNL	WITHIN NORMAL LIMITS	WR	WASSERMANN REACTION
WPWS	WOLF PARKINSON WHITE (SYNDROME)		
X			
XDP	XERODERMA PIGMENTOSUM	X-match	CROSS MATCH
XR	X-RAY		
Y			
Y	YEAR	YF	YELLOW FEVER

SYMBOLS

SYMBOLS	EXPANSION	SYMBOLS	EXPANSION
a	ABOVE	v	SYSTOLIC PRESSURE
B	AFTER	Rx	TAKE (MEDICAL PRESCRIPTION)
≈	APPROXIMATE	c	WITH
@	AT	s	WITHOUT
*	BIRTH	÷	divided by or division
O	COMBINED WITH	(-)	negative
+	DEATH	(+)	positive
<	less than	°	degree
^	DIASTOLIC PRESSURE	≠	not equal to
x	END OF OPERATION	≤	less than or equal to
=	EQUALS	>	greater than
♀	FEMALE	≥	greater than or equal to
(')	FOOT	ā	before
#	FRACTURE	β	beta
>	GREATER THAN	℥	ounce
L	LEFT	ʒ	dram
(")	INCH	gr	grain
		∅	None
>	MORE THAN	ō	with no
		↑	increase
∞		INFINITY	↓
<	LESSER THAN	#	number
♂	MALE	Δ	change

µg	MICROGRAM	1°	primary or first degree
ul	MICROLITER	2°	secondary or second degree
u	MICRON	3°	tertiary or third degree
M	MURMUR	°	degree
.	START OF OPERATION	≠	not equal to
+	POSITIVE	X	times
:	RATIO	aa	of each
	RIGHT	abn	abnormal
oz	OUNCE	Abx	antibiotics
/	PER	ante	before
+	NOT DEFINITE	-	NEGATIVE

Bibliography

1	Anatomy and Physiology for Paramedics; by Dr. G. Mogli. JAYPEE BROTHERS, Medical Publishers (P) Ltd. www.japeebrothers.ocm
2	Comprehensive Allied Health and Diagnosis Services for Nursing and Paramedics, by Dr. G. D. Mogli, JAYPEE BROTHERS, Medical Publishers (P) Ltd. www.japeebrothers.ocm
3	Cowie MR, Blomster JI, Curtis LH, Duclaux S, Ford I, Fritz F, Goldman S, Janmohamed S, Kreuzer J, Leenay M, Michel A, Ong S, Pell JP, Southworth MR, Stough WG, Thoenes M, Zannad F, Zalewski A. Electronic health records to facilitate clinical research. Clin Res Cardiol. 2017 Jan;106(1):1-9. DOI: 10.1007/s00392-016-1025-6. Epub 2016 Aug 24. PMID: 27557678; PMCID: PMC5226988.
4	Dr.Moglis Health Information Management & Health Informatics Professionals Handbook by Prof. Dr. G. D. Mogli, Dr. Mogli, MERCHE Publishing, www.drmogli.com -2022
5	“Dr.Mogli’s Health Information Management & Health Informatics Professionals Handbook” by Prof. Dr. G. D. Mogli, (PP431-436).
6	Dr.Moglis Healthcare Technologist Handbook for All Healthcare Professionals by Prof. Dr. G. D. Mogli, Dr. Mogli, MERCHE Publishing, www.drmogli.com -2021
7	Dr. G. D. Mogli’s Healthcare Technologist Handbook for All Healthcare Professionals. 2) R.K. Koul (MRO AIIMS, Delhi)
8	Electronic Nursing Records, by Dr. G. D. Mogli, JAYPEE BROTHERS, Medical Publishers (P) Ltd. www.japeebrothers.ocm
9	Health Care Management Adviser by Dr. G. D. Mogli, JAYPEE BROTHERS, Medical Publishers (P) Ltd. www.japeebrothers.ocm
10	Health Records Paper to Paperless by Dr. G. D. Mogli, JAYPEE BROTHERS, Medical Publishers (P) Ltd. www.japeebrothers.ocm
11	Karthik Seetharam, Sirish Shrestha, Partho P Sengupta: Cardiovascular Imaging and Intervention through the Lens of Artificial Intelligence. ICR3
12	Hospital Patient Care Relationship Coordinator by Dr. G. D. Mogli JAYPEE BROTHERS, Medical Publishers (P) Ltd. www.japeebrothers.ocm
13	How to Outshine and Succeed in the HIM Profession to be a Global Expert by Prof. Dr. G. D. Mogli, Dr. Mogli’s MERCHE Publishing, www.drmogli.com -2022.
14	http://209.85.175.104/search?q=cache:38F6xK3LxfkJ:https://67.132.127.101/resources/policy/6/6-4/pdf/6-4U%2520Patient%2520Observation%2520Policy%2520Acute%2520Inpatient%2520Level%2520of%2520Care.pdf+Nurses+observation+form&hl=en&ct=clnk&cd=3&gl=in
15	http://www.surgeryencyclopedia.com/Ce-Fi/Discharge-from-the-

	Hospital.html
16	http://cancerweb.ncl.ac.uk/cgi-bin/omd?patient+discharge
17	http://cancerweb.ncl.ac.uk/cgi-bin/omd?preoperative+care
18	http://www.aimshospital.org/hospital/cssd/cssd.php
19	http://www.rheumatology.org/practice/document_code/consultationvreferral.asp
20	http://www.datadictionaryadmin.scot.nhs.uk/isddd/1772.html
21	http://namstp.ayush.gov.in
22	https://www.who.int/news/item/18-06-2018-who-releases-new-international-classification-of-diseases-(icd-11)
23	https://icd.who.int/en/docs/icd11factsheet_en.pdf
24	https://www.who.int/news/item/11-02-2022-who-s-new-international-classification-of-diseases-(icd-11)-comes-into-effect
25	https://www.who.int/standards/classifications/frequently-asked-questions/importance-of-icd
26	https://www.aapc.com/icd-11/
27	What Is the ICD-11?
28	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8577172/
29	https://library.ahima.org/doc?oid=58258#.YzUxunZBzcc
30	https://cdac.in/index.aspx?id=hi_his_hospital_info_systems
31	https://www.geeksforgeeks.org/10-best-data-visualization-tools-in-2020/
32	https://www.dnsstuff.com/how-important-database-healthcare
33	https://esanjeevaniopd.in/About
34	https://main.mohfw.gov.in/newshighlights-46
35	https://www.simplilearn.com/data-analysis-methods-process-types-article
36	www.cbhidghs.nic.in/courses
37	Lin WC, Chen JS, Chiang MF, Hribar MR. Applications of Artificial Intelligence to Electronic Health Record Data in Ophthalmology. Transl Vis Sci Technol. 2020 Feb 27;9(2):13. DOI: 10.1167/tvst.9.2.13. PMID: 32704419; PMCID: PMC7347028.
38	Managing Globally Efficient Optimal Hospitals for Healthcare Managerial Professionals (9-in-1 Handbook with A-Z Technology by Prof. Dr. G. D. Mogli, published by NOTIONPress.com -2022.
39	Managing Medical Records by Dr. G. Mogli, Channel Publishing, LTD. Reno, Nevada, USA-1966
40	Manish Wadhwa. Electronic Health Records in India, ICT India working paper #25. Center for Sustainable Development, Earth Institute, Columbia University, March 2020
41	Medical Certification of Cause of Death by Dr. G. D. Mogli, published in 1996.
42	Medical Examination and Diagnostic Techniques for Medical Students, by Dr G. D. Mogli, JAYPEE BROTHERS, Medical Publishers (P) Ltd.

	www.japeebrothers.ocm
43	Medical Record Policies and Procedures by Dr. G.D. Mogli, published in 1998.
44	Medical Records Organization and Management -2 nd Edition by JAYPEE BROTHERS, Medical Publishers (P) Ltd. www.japeebrothers.ocm
45	Paramedics 6-in-1 Handbook, 2 nd Edition, JAYPEE BROTHERS, Medical Publishers (P) Ltd. www.japeebrothers.ocm
46	Patient Care Research by Dr. G. D. Mogli, JAYPEE BROTHERS, Medical Publishers (P) Ltd. www.japeebrothers.ocm
47	Prusaczyk B, Fabbre V, Carpenter CR, Proctor E. Measuring the Delivery of Complex Interventions through Electronic Medical Records: Challenges and Lessons Learned. EGEMS (Wash DC). 2018 May 25;6(1):10. DOI: 10.5334/egems.230. PMID: 30094282; PMCID: PMC6078114.
48	Stausberg J, Koch D, Ingenerf J, Betzler M. Comparing paper-based with electronic patient records: lessons learned during a study on diagnosis and procedure codes. J Am Med Inform Assoc. 2003 Sep-Oct;10(5):470-7. doi: 10.1197/jamia.M1290. Epub 2003 Jun 4. PMID: 12807808; PMCID: PMC212784.

Dr. Mogli's Self-Learning 5-in-1Book
MadeEasy-3000-Questions&Answers for
HIM & Health Informatics Professionals
(Salient Features of the book)

“3000 Question and Answer Self-Learning Managing Modern Medical Records Book comprising Anatomy, Physiology, Medical Terminology, Healthcare including Hospital services, Medical Records-manual and electronic (digital) and Administration”. The book is unique in the sense; entire “Managing Modern Medical Records knowledge you gain through question and answers, fully practical to enable HIM professionals and students should have clear knowledge, skills, and workable attitudes to perform the set job much easier in a short period with optimal results.

The book has 31 chapters, 2 annexures, and a bibliography well-prepared Goldmine for HIM professionals with 3,000+ Brainstorming Quiz Questions and Answers to more than 2,500 questions. Some topic-wide questions are to be answered by the candidates as an exercise. Healthcare includes briefly all hospital facilities, Medical Records consist of manual and electronic and Artificial Intelligence deals with maintaining scientific digital records for efficient patient care. Management topics include leadership, motivation, and communication skills to achieve a good quality of service economize health services expenditure effectively manage legal issues, and meet the needs of hospital accreditation by JCI or NABH.

This book will be of immense value to all those who intend to work or work in MRD/HIM without and with professional qualifications and Health Informatics professionals, and all healthcare professionals e.g. doctors, nurse paramedical, medico-legal personnel, insurance, etc. The healthcare policy and decision makers; colleges and institutes of hospital administrative educational programs including Electronic Health Records, Health Information Management, and paramedical courses and research institutions need to use this book is a masterpiece and good nutritious food for all the honourable readers including students of all healthcare fields will lead in managing globally efficient optimal hospitals.



Prof. Dr. G. D. Mogli, Ph.D., MBA. FHRIM (UK), FAHIMA (USA), is Visiting Professor of Medical Informatics, Mahatma Gandhi Institute of Medical Sciences, Maharashtra, India. He is the Fellow of American Health Information Management Association (FAHIMA), USA; Fellow of Health Record Information Management (FHRIM), UK; and Doctorate in Medical Record Administration, Chief Executive Officer of Dr. Mogli's Healthcare Management Consultancy and Ex. Senior Consultant (eHealth Management) HEARTCOM Inc. (USA). He served the World Health Organization (WHO) as a Visiting Consultant. He has vast experience in the Healthcare Delivery System in general and Medical Records/Health Information Management in particular. During his five decades of career, he has received many distinguished awards and credentials from professional organizations and countries wherever he served. In 2004, the American Health Information Management Association (AHIMA) has awarded him as one of the 2004 Triumph Award nominees for 'Honoring Those Who Make a Difference'. He is the first person to have HIM Fellow from UK and USA, First AHIMA Fellow outside USA. He is a listee of the International Biographical Center (IBC) Leading Health Professionals of the World-2008 and as such stands testament to the efforts made by said individual in the arena of eHealth Management. He has served as Sr. Consultant / Adviser to the Ministries of Health, India, Afghanistan, Iran, Kuwait, Saudi Arabia, Oman, Bahrain, Qatar and UAE. He is an active member of AHIMA (USA), IRHIM (UK), IFHIMA (World), President of HIMA India and serving as Academic Advisory board to educational institutions. He is well-known as —**Father of Medical Records of India and Middle East, Known as Champion of Developing Countries by IFHIMA (World)**. He presented papers in 24 world conferences held throughout globe and delivered guest lectures in 14 overseas nations currently involved in healthcare education and research and published 15 books and 31 scientific papers in international journals of repute.