



MAHATMA GANDHI UNIVERSITY
of
MEDICAL SCIENCES & TECHNOLOGY
JAIPUR

Syllabus
M. Sc. HOSPITAL AND HEALTH INFORMATION
ADMINISTRATION

(2 Years Post Graduate Degree Course)

NOTICE

- 1, Amendments made by the court of the management of the university in rules/regulations of Graduate Medical Courses shall automatically apply to the rules/ regulations of the Mahatma Gandhi University of Medical Sciences and Technology.
- 2, The university reserves the right to make changes in the syllabus /books/ guidelines, fee-structure or any other information at any time without prior notice. the decision of the university shall be binding on all.
- 3, The jurisdiction of all court cases Shall be Jaipur Bench of Hon'ble Rajasthan High Court only.

**Rules and Regulations of
M. Sc. Hospital and Health Information Administration
(M. Sc. H & HIA)
2 Years Post Graduate Degree Course, Full Time**

INTRODUCTION:

1. 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.

2. 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. Expectation of future postgraduates in supporting future healthcare HIM professionals do not just work in hospitals. They work for accounting firms, insurance companies, information systems vendors, government agencies, pharmaceutical research companies, and others. Wide varieties of employers actively recruit health information managers.

3. According to the department of labor, employment opportunities for Health Information Management (HIM) professionals continue to grow much faster than the average for all occupations. They may look for career choices not only in acute-care settings, but in all types of alternative care settings, as well as in education, business, and legal settings. Services provided in these areas range from technical to administrative, with emphasis being placed on the latter.

4. As a vital member of the health care team, the health information manager is responsible for managing health information systems. This professional plan and develops health information systems that meet standards of accrediting and regulatory agencies. They also design health information systems appropriate for various sizes and types of health care facilities. A postgraduate serve as an advocate for privacy and confidentiality of health information and plans and offers in-service educational programs for health care personnel.

JOB OPPORTUNITIES:

There are multiple job opportunities available to M. Sc. Hospital & Health Information Administration Candidates. The following is just a sample of jobs in various practice settings:

Traditional Settings

1. Management, HIM (Medical Records)-Responsible for the day-to-day operations of an HIM Department, maintains a budget, oversees staff, and interacts with other hospital departments, plans for the department. Tumor registry Reviews, abstracts, and codes clinical cancer information in order to comply with government regulations. Maintains a database. Also provides data for physicians and research studies.

2. Coding-Reviews medical documentation and assigns appropriate diagnosis and/or procedure codes in order for billing to occur.
3. Trauma registry (E.R.)- Collects, codes, and maintains data unique to trauma registry, maintains a database. Assists with research projects, performance improvement, and administrative planning.
4. Transcription-Responsible for providing accurate and timely reports for patient care, documentation and billing.
5. Quality Improvement-Collect and summarize performance data, identify opportunities for improvement, and present data to other clinicians and administrative staff.
6. Release of Information-Track, process, and evaluate requests for release of medical information. Requires knowledge of central and state laws & regulations.
7. Patient Admissions-Responsible for patient admission, insurance verification, database maintenance. Oversees a staff, maintains a budget, and communicates with other hospital departments.
8. Compliance Auditor-Responsible for conducting chart audits, preparing reports, and reporting data. Also, develops policies and procedures for staff training.
9. Physician Accreditation-Maintains databases with physician information in order to provide data to administrative staff for physician accreditation.
10. Utilization Review-Works closely with clinicians to analyze patient records in order to determine admission criteria and use of resources for length of stay. Must have knowledge of insurance requirements.
11. Physician offices-Manages day-to-day operations of a physician office, including scheduling, billing, staffing, budgeting, and record keeping, and reporting.
12. Risk Management-Collects, evaluates, and maintains data concerning patient injuries, claims, worker's compensation, etc. Reports data to administrative staff and makes changes to policies and procedures as needed.

Non-Traditional Settings

1. Consulting firms-Works with various clients to provide HIM expertise.
2. Government agencies-Possible job opportunities involve working with state and central government agencies.
3. Law firms-Provide HIM expertise to areas within health law, central and state regulations concerning health care.
4. Insurance companies-Work with various providers in order to negotiate contracts, assist clients with claims.
5. Correctional facilities-Maintain health records, perform quality reviews and assist in research studies.

6. Extended care facilities-Maintain health records to provide a continuum of care, comply with central and state regulations, conduct quality reviews, and maintain accreditation requirements.
7. Pharmaceutical Research Statistician, Clinical Trials Coordinator, Data Manager-Provides data management services in order to meet customer needs. Manages projects, staff, and timelines.
8. Information Technology System Analyst, Project Manager, Data Manager-Works with software vendors to design clinical software, provides training to end-user staff, assists with system installations, provides system support.
9. Medical Software Companies Software Designer Software Tester-Designs and develops databases, performs various software testing, assists clients with system installations.

Expectations from the future post graduates of hospital & health information administration in health care industry:

On completion of this course, the students will be able to:

- * Evaluate knowledge of practice relevant to health information management.
- * Use formal research as a tool to evaluate and develop practice.
- * Identify his/her professional learning and developmental needs.
- * Work collaboratively with other health care professionals to achieve a quality service.
- * Enable health care organization for better management of patient information
- * Support health care administrators in routine activities
- * Apply the knowledge obtained on specialized areas effectively in the health care system.
- * Use interpersonal skills to facilitate effective communication with various health care professionals
- * Develop health information standards according to the health care requirements
- * Apply analytical and reflective skills to evaluate and improvise professional practice.
- * Uphold legal ethical standards within his/ her profession

1. Title of The Course:

The title of the course shall be “**M. Sc. Hospital & Health Information Administration. (M. Sc. H&HIA)**”

2. Duration of The Course/ Period of The Training:

The duration of certified study of the M. Sc. Hospital and Health Information Administration course shall extend over a period of 2 (two) academic years (**1150** hours of Theory and **530** hours of Practical Classes) and **900 hours** (last six months) of project work. The student, upon successful completion of the course will be awarded “**M. Sc. Hospital & Health Information Administration**” from MGUMST.

Total hours – 2580.

3. Eligibility for Admission:

1. Any health science graduate with MBBS/ BAMS/ BHMS/BDS/B. Sc. Nursing/Allied Health Sciences or equivalent with minimum aggregate of **50%** marks for general category and **45%** marks for reserved category candidates.

OR

Pass in any undergraduate program of 3- or 4-years duration or equivalent or any post graduate program of 2- or 3-year duration or equivalent with minimum aggregate of **50%** for general category and **45%** marks for reserved category candidates marks in any science group or public health/Health administration or computer science/technology group. A candidate also must have passed in English (CORE or selective or functional) as a subject of studies in the qualifying examination.

2. candidates will be required to produce evidence of their passing graduation latest by the day of personal interview.

3. candidates with relevant work experience are encouraged to apply. Working professionals will be considered for admission only after submitting NOC from their employer.

4. Medium of The Course:

English shall be the medium of instruction for all the subjects of study and for examination of the course.

5. Curriculum

The curriculum and the syllabus for the course shall be as prescribed by the academic Council from time to time.

6. Selection Procedure

1. Admission to M. Sc. In hospital and Health Information Administration course shall be made on the basis of eligibility criteria set by university and interview to be conducted for the purpose.
2. Successful candidates on the basis of 12th percentage will be called for the University combined entrance examination followed by interview & shall have face an interview board. The interview board will include the Principal of Institute of Health Informatics and Head of the Institution, whose recommendations shall be final for the selection of the students.
3. During subsequent counseling (s) the seat will be allotted as per the merit of the candidate depending on the availability of seats on that particular day.

4. Candidate who fails to attend the Entrance Examination on the notified date(s) will forfeit the claim for admission and placement in the waiting list except permitted by the competent authority under special circumstances.
5. The name of the student(s) who remain(s) absent from classes for more than 15 days without information at a stretch after joining the said course will be struck off from the college rolls without giving any prior notice.

7. Enrollment:

Every candidate who is admitted to M.Sc. Hospital & Health Information Administration degree course in Mahatma Gandhi Institute of Health Informatics shall be required to get himself/herself enrolled with the Mahatma Gandhi University of Medical Sciences & Technology (MGUMST) after paying the prescribed eligibility and enrolment fees.

A candidate shall deposit enrolment fees along with tuition fees at the time of his/her admission to the course. Such a candidate who fails to submit, through the college Principal, duly filled enrolment form along with original documents including migration certificate required for enrolment within two months of his/her admission or up to November 30 of the year of admission whichever is later, he/she will have to pay late fee prescribed by the University

8. Commencement of The Course

The course shall commence from the 1 August of every academic year.

9. Attendance:

No candidate shall be permitted to appear for any one of the parts of M. Sc Hospital & Health Information Administration degree course examinations, unless he/ she has attended the course in the subject for the prescribed period in an affiliated Institution recognized by this University and produces the necessary certificate of study, attendance, satisfactory conduct and progress from the Head of the Institution.

- * A candidate is required to put in a minimum of **75%** of attendance in both theory classes and practical's separately before appearance to the examination. This relaxation in attendance includes for medical & any other reasons approved by the head of the Institution.
- * A candidate lacking in the prescribed attendance and progress in any one of the subjects in theory and practical in the first appearance shall not be permitted for admission to the entire examination.

10. Scheme of Examination

The students will be assessed/ evaluated as under: -

Marks Qualifying for a Pass

A candidate shall be declared to have passed the examination if he or she obtains the following qualifying marks:

50% marks in the university examination and **50%** marks in internal assessment evaluated by the department.

Practical examination and **50%** aggregate in practical and **50%** internal evaluation marks evaluated by the department.

10.1 Internal Assessment (carrying 30% weightage)

Internal assessments will be conducted in every year. Internal assessments will consist of departmental examinations, assignments, departmental posting, evaluations / seminars and 05 (five) case studies/project reports. The objective is to allow students to have hands on experience. It would also help students to develop and formulate the data collection process and data analysis.

10.2 University Examination (Carrying 70 % weightage)

- a. Each theory paper examination shall be of 3 hours duration and of maximum marks 70.
- b. There will be four question papers of theory in first year and shall be in accordance with the different subjects/area covered during First year course.
- c. There will be Three question paper of theory in accordance with the different subjects/area covered during Second year course.
- d. For the First- and Second-year examinations, the university will appoint internal and external examiners, one of the external examiners will be invited from the other recognized university. question papers shall be set by these examiners (appointed by the university) covering their respective areas of syllabus. The answer book shall be evaluated by the concerned examiners.
- e. The Paper setter shall set the questions within the prescribed course of study of the concerned paper. There will be a set pattern of question papers duly approved by Academic Council. Model question paper is annexed with this document.
- f. Passing mark - A candidate will have to obtain at least 50% marks in each Theory paper to pass.
- g. Revaluation of answer books is not permitted. However, scrutiny of answer books is allowed as per MGUMST rules. There will be no grace marks awarded.
- h. University examination shall be conducted twice in a year, that is main and supplementary examination
- I. Answer books will be evaluated by both external and internal examiners. It will be decided by the President as to which paper to be assigned to which examiner for evaluation.
- j. if a student fails in any year examination expect second year, she/he will be allowed to write supplementary exam after every 06 months. However, if a student fails in three and more papers, she/ he will not be promoted to next year. Consolidated score sheet of internal assessment will be submitted by the college to MGUMST within 15 days of conclusion of second year.

10.3 Practical

Examination format.

First year – 400 Marks (200 External + 200 internal)

Second year – 300 Marks (150 External + 150 internal)

Dissertation – 200 Marks (100 External + 100 internal)

It shall be left on the examiners – Internals and the Externals, as the case may be, to examine and evaluate the students in the way they wish and award the marks without giving any specific details. The total marks obtained by the candidate in the Project assignment and viva shall be the aggregate of the marks awarded by all the examiners put together as one figure.

A student shall be required to obtain a minimum of 50% pass mark in the Dissertation examination. A candidate who fails to obtain 50% marks shall be declared failed.

10.4 Dissertation

1. All students will be required to write a dissertation involving primary research in his/her area of interest.
2. The dissertation includes a critical review of literature pertaining to the specific area of interest data analysis and analysis of the selected problem.
3. One faculty member will be assigned as a guide to each student in consonance with university/council norms.
4. Synopsis/protocol of the dissertation shall be submitted by the student after three months of admission of course.
5. Dissertation duly completed and signed by guide shall be submitted at least three months before the final year exam.
6. The dissertation will be examined by two examiners appointed by the university.
7. Student shall be allowed to appear for the university examinations only after the acceptance of the dissertation by the examiners.

10.5 Distinction

A student scoring more than 75% marks in any paper will be awarded distinction in that paper.

10.6 Evaluation weightage

The final evaluation for each subject shall be based on internal assessment components (30 percent weight) and University Examination (70 percent weight) conducted by the University.

WEIGHTAGE DISTRIBUTION

Item	Weight (%)
1.Internal assessment	
Class participation/presentation, study records	10.00%
Assignment, quizzes and summer training report	10.00%
Departmental Postings, case studies, project reports	10.00%
2.University exam	
70.00%	
Total	100%

YEAR WISE EVALUATION MARKS DISTRIBUTION									
Year	Paper	Theory			Practical			Total	Totals
		IA	UE	Pass Marks	IA	UE	Pass Marks		
First year	I	30	70	50 % in each IA & UE	50	50	50 % in each IA & UE	200	800
	II	30	70		50	50		200	
	III	30	70		50	50		200	
	IV	30	70		50	50		200	
Second year	I	30	70	50 % in each IA & UE	50	50	50 % in each IA & UE	200	800
	II	30	70		50	50		200	
	III	30	70		50	50		200	
	Dissertation IV	-	-	-	100	100	50	200	
GRAND TOTAL		210	490		450	450		1600	

11. Result:

Result – Division: Successful candidates will be categorized as under.

1	Those securing 50% and above but less than 60% in the aggregate marks of First and Second year taken together (Aggregate marks)	-	Pass
2	Those securing 60% and above but less than 75% in the aggregate marks of First and Second year taken together (Aggregate marks)		Pass with First Division
3	Those securing 75% and above in the aggregate marks of First, marks of First and Second year taken together (Aggregate marks)	-	Pass with Honors

12. Promotion to 2nd year of the program

1. A candidate if failed in one or two subjects in first year of the M. Sc. Hospital & Health Information Administration program can be promoted in second year.
2. A candidate can take any number of attempts with condition that maximum period allowed to complete the M. Sc. Hospital & Health Information Administration Course Shall be 4 years.
3. Results of the candidates successful at the final year examination will be declared only after clearing back paper subjects of first and/or second year if any by him.

13. Supplementary examination.

University examination shall be conducted in every six months, that is main and supplementary examination.

14. Authority to issue transcript

The Controller of Examination of the University shall be the authority for issuing transcript after receiving the described fee from the candidate.

15. NOMENCLATURE OF PAPERS

M. Sc Hospital & Health Information Administration (H&HIA) First Year	
Paper Ist	Data Analytics and Database Management
Paper IInd	Fundamentals of Health Care Application
Paper IIIrd	Medical Language & Disease Classification
Paper IVth	Organizational Behavior
M. Sc Hospital & Health Information Administration (H&HIA) Second Year	
Paper Ist	Health Care Financing & TPA
Paper IInd	Health Informatics
Paper IIIrd	Research & its applications
Paper IVth	Dissertation

16. COURSE OUTLINE

Duration	02 Years
Working Days	6 Days in A Week
Working Hours	36 Hours in A Week

Paper Wise Details

Placement: - M. Sc Hospital & Health Information Administration (H&HIA) First Year
Duration: - 1140 hours

PAPER I - DATA ANALYTICS AND DATABASE MANAGEMENT

unit I: Fundamentals of Computer

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.

unit II: Data visualization

A Brief History of Data Visualization, Good Graphics? Static Graphics Data Visualization Through Their Graph Representations Graph-theoretic Graphics High-dimensional Data Visualization Multivariate Data Glyphs: Principles and Practice Linked Views for Visual Exploration Linked Data Views Visualizing Trees and Forests Multidimensional Scaling

unit III: Python

Features of Python programming language, Cross platform Open-Source Automatic memory management python programming,

PAPER II: FUNDAMENTALS OF HEALTH CARE APPLICATION

unit I: Introduction to the Health Information Management Profession

HIM departmental functions, the content and types of health records, and the retention and storage of health information. Professional ethics are woven throughout the course and students will be exposed to current issues impacting the field.

Unit II: English for Health Professionals and Communication skills

effective communication between patients and their healthcare providers (nurses, doctors, medical staff), through emphasis on basic, practical language needed to communicate with English-speaking patients and their families in various settings. Building basic language fluency at the same time as medical terminology with cultural competency woven throughout, students will learn to gather and share basic information like greetings, goodbyes, patient intake, discussion of symptoms, location of pain and injuries, body parts, numbers, time, doses, and units of measure. Focus is on learning and becoming comfortable with basic medical English phrases and medical English vocabulary.

Unit III: Hospital Information System & Health care applications

HMIS in Indian public healthcare-hospital features, functionality & data flow of e-hospital in India, technology used for e-hospital in Indian public healthcare HMIS implementation in Indian public hospitals benefits derived from e-hospital definition, purposes, structure (operation, telecommunication, system development / project management, application support, support, network, system administration),

Paper III: MEDICAL LANGUAGE & DISEASE CLASSIFICATION

UNIT I: medical language I

Origin of medical terms historical perspective, Various uses and application of medical terms, Purpose of learning medical terminology Stem Words/Root, Musculo-skeletal system, Respiratory system ,Cardiovascular system ,Digestive system Endocrine system ,CNS system, Urinary system, Reproductive system ,Organs of special sense, Integumentary system, Prefixes, Definition, Various Prefixes, meaning and example terms ,Pseudo Prefixes – meaning & Example terms Suffixes, Definition & Types of suffixes, Various Suffixes, meaning and example terms Surgical procedures (System wise)

UNITII: medical language II

concepts of body systems, components within individual systems, and relationships between systems, division of the body into body cavities and planes. Disease, disorders and dysfunctions, terminology of body systems to issues of disease, diagnostic and therapeutic tests, and procedures. Common sign and symptoms of disease conditions, Common Medical Terms, Common medical terms and meaning of those terms, Signs and Symptoms,

UNIT III: disease classification system

Evolution of Death Registration, Multiple Cause-of-death Statistics Related Health Classifications. ICD, SNOMED-CT Issues Associated with ICD Development Classifying Diseases for Primary Mortality Tabulations and Problems of Joint Causes of Death

PAPER IV: ORGANIZATIONAL BEHAVIOR

unit I: Management & Organizational Behavior

Importance of Management - Definition of Management -Characteristic features of Management - Roles of Management-Role of a Manager-Levels of Management and their functions-Process of Management-Managerial Skills-Management and Administration-Management – Science or an Art? - Management – a profession? Nature of Management principles, Need for Management principles-Early Management approaches - Scientific Management-Administrative Management-Human Relation Movement-Modern Management Approaches-Behavioral Approach-Quantitative Approach-System approach -Contingency approach

UNIT II: Thinking and Decision-making process

Human Information Processing -Approaches (Lens model, Cognitive approach, Process training approach)- Phases of decision making- Types of decision making- Decision cycle- Behavioral decision making- Decision rationality - Models of behavioral decision making-Use of heuristics-Thinking – process, images, language- Concepts- Problem solving- Creative thinking Perception Definition- Factors- Perceptual grouping and selectivity - Stimuli selection- Barriers - Honing perceptual skills Attitudes and values Definition, Characteristics, Functions and Formation of attitudes-Definition, types, formation of values- Values and behavior- Values and ethics- Values and attitudes Learning Definition – Components –Determinants- Theories (classical, operant, cognitive, social learning)- Principles of reinforcement- Punishment- Learning curves- Learning and behavior

Unit III: General Management

Planning –Organization-Decision Making-Communication-Staffing-Directing-Motivation-Counseling
-Mentoring –Leadership Organizational Behavior Personal Growth and Development **Definition,**
characteristics, determinants, causes, Theories (Type, Trait, Intrapsychic, Social learning, Skinner's)

Placement: - M.Sc. Hospital & Health Information Administration (H&HIA) Second Year

Duration: - 1440 hours (Including dissertation hours – 900)

Paper I: - HEALTH CARE FINANCING & TPA

unit I: Healthcare Financing

Financial Management for Health Professionals, The Nature and purpose of Accounting, Accounting Concepts & Accounting records: □ What is accounting information? Who needs it? What they need or expect? What do accountants do? □ Single Entry Book – keeping □ Double Entry Book - keeping What is an Account? Making entries. Five types of Accounts (Income, Expense, Asset, Liability, Capital) Book – keeping rules accounting books/ledgers (Nominal, Purchase, Sales, Journal etc)
□ Dealing with cash, imprest system Preparation of various Financial Statements: Trial Balance □ Receipts and Payments □ Income and Expenditure Account □ Balance Sheet

unit II: Financial management

Fixed assets and Depreciation:

□ What are fixed assets and why are they different? What is depreciation and why do we need it? How do we calculate depreciation? (pros and cons of different methods) Accounting entries for depreciation Costing and Pricing: Financial accounting Vs. Cost accounting Key terms: Direct/indirect, fixed/variable/semi-variable Analysing results: Standard/budgeted/actual Costing hospital services Taken action: controllable /uncontrollable Making decisions: Marginal/book/out –of pocket costs Reporting costs: Cost Centres, allocation and apportionment of costs Pricing methods and decisions. Inventory Accounting: Inventory / stocks Valuation (FIFO, LIFO, WAC etc) Optimum balance and reorder levels. Health Insurance in India Health Insurance & Third Party Administrators Insurance Regulatory Development Authority & its role Billing & Health Insurance Billing

unit III: Recent advances in health information management

Issues in Health Information Technology,current issues related to health informatics including healthcare policy analysis and development, ethical issues, structure of healthcare delivery systems, assessment of population health, models of health care delivery, access and quality of care issues. Information Technology and Systems, Health Information Systems.

Paper II:- HEALTH INFORMATICS

unit I: Clinical Workflow & Process Redesigning

theory of quality and process improvement, workflow redesign, modeling techniques, use case scenario descriptions, clinical process re-engineering, relationship to system infrastructure preparation and system build, outcomes measurement, and impact of change on organizational climate.

Unit II : professional Ethics

Fundamentals of medical ethics: Law & Ethics – Definition, Goal, Scope, Basic Principles Code of Conduct: History and Development - Various code of ethics in medical and Health Information Management practice: Atreya Anushasana, Charaka Samhita, Sushruta Samhita, Hippocratic Oath,

International Code of Medical Ethics, Code of Ethics for Biomedical Research, and Code of Conduct for Health Information Professionals Ethical Issues in professional conduct of healthcare and health information professional: Malpractice & negligence, Irrational Use of drug, Autonomy of patient Vs Paternalism, Informed Consent, Confidentiality, Sophisticated drug and Technology, Research, Clinical trial, Human Experimentation, Organ Transplantation Ethical issues at the beginning and end of life: Genetics, Right to life, Sex Pre-selection, Female feticide & Infanticide, Care of terminally ill patient, Euthanasia, Quality of life

Unit III: Healthcare Informatics

electronic health record, health information systems, repositories and data bases, enterprise-wide systems, laboratory, radiology (PACs) systems, voice recognition, physician order entry, telemedicine, decision support systems. Overview of historical, current, and emerging health information systems; concepts and knowledge involved in making strategic use of information technology (IT) in health care organizations and linkages to business, planning, and governance; Overview of multiple systems, vendors, processes and organizations; methodology for evaluation of health information systems. Includes system design methodologies including systems analysis and design; systems selection and evaluation; workflow analysis and project management.

PAPER III: RESEARCH & ITS APPLICATIONS

unit I: Biostatistics & Research Methodology

Introduction to Biostatistics & research methodology, Types of variables & scales of measurements, Measures of central tendency and dispersion, Rate, Ratio, Proportion, Incidence & Prevalence Sampling Random & non- random sampling, Various methods of sampling, Simple random sampling, Stratified, Systematic, Cluster, Multistage, Sampling & Non sampling errors, Methods of minimizing errors, Structure of research protocol -Structure of thesis/ research report- Formats of reporting in scientific journals - Systematic review - Meta-analysis

UNIT II: Basic probability distribution & Sampling distributions

Concept of probability distribution- Normal, Poisson & Binomial Distribution-Parameters & Applications-Concepts of sampling distribution-Standard Error & Confidence Interval Skewness & Kurtosis Tests of Significance

Basics of Testing of Hypothesis- Null & Alternate Hypothesis- Level of significance (Parametric) & power of test-p Value-Tests of significance- test (Paired & Unpaired), Chi- Square test, Test of Proportion- One-way analysis of variance- Repeated measures of analysis of variance- Test of significance (non-parametric), Mann- Whitney U test, Wilcoxon test, Kruskal- Wallis analysis of variance, Friedmann's analysis of variance Correlation & Regression Simple correlation- Pearson's & Spearman's Testing the significance of correlation coefficient linear & multiple regression

UNIT III: Correlation & Regression

Simple correlation- Pearson's & Spearman's Testing the significance of correlation coefficient linear & multiple regression Sample size determination General concepts- Sample size for estimating the means & proportion Testing the difference in means and proportion of two groups **Study Designs** Descriptive Epidemiological Methods- Case series analysis and prevalence studies Analytical epidemiological methods- Case- Control & Cohort studies Clinical trials/ Interventional studies Odds ratio & Relative risk Stratified Analysis Multivariate Analysis Concept of multivariate analysis- Introduction to logistic regression & survival analysis Reliability & Validity evaluation of diagnostic tests Format of scientific document

MODEL PAPER

M. Sc. H&HIA-.....

DADM-I

**M. Sc. Hospital and Health Information Administration
Part I Main Examination (Month, year)**

**Paper - I
Data Analytics and Database management**

**Time: Three Hours
Maximum Marks: 70**

Attempt all Questions
All the parts of one question should be answered at one place.
Only one Supplementary Copy along with one main answer book is allowed

Q1. Long Answer (Attempt any two) 2X15 = 30

- a) What do you understand about data modeling write down importance of data modeling?
- b) Define internet. Describe the uses of internet in health care management?
- c) What are the methods of data collection in digital mode? Describe any one tool used for data analysis.

Q2. Short Essay (Attempt any Two) 2X10 = 20

- a) Discuss about basic medical English phrases with example.
- b) What is the e- hospital features?
- c) Communication tools?

Q3. Short notes (Any four) 4X5 = 20

- a) Describe uses of charts and report in MS Excel?
- b) Describe Tele net and FTP TCP/IP?
- c) What is operating system?
- d) Networking in health care institutions?
- e) What are the uses of Python-Programming language?

MODEL PAPER

M. Sc. H&HIA-.....

FHCA-II

**M. Sc. Hospital and Health Information Administration
Part I Main Examination (Month, year)
Paper - II**

Fundamentals of Health Care Application

**Time: Three Hours
Maximum Marks: 70**

Attempt all Questions

All the parts of one question should be answered at one place.

Only one Supplementary Copy along with one main answer book is allowed

Q. No. 1 Long Answer (Attempt any two) 2X15 = 30

- A. Discuss about the systems utilized for HIM departmental functions?
- B. Describe about effective communication between patients and their healthcare providers?
- C. Describe benefits of HMIS implementation in Indian public hospitals.

Q. No. 2 Short Essay (Attempt any Two) 2X10 = 20

- A. Write down tools of communication through internet ?
- B. What is visual basics. Explain with suitable example ?
- C. Describe fundamental concept of programming ?

Q. No. 3 Short notes (Any four) 4X5 = 20

- A. Content and types of health records.
- B. What is language fluency ?
- C. Public healthcare application ?
- D. What is support network ?
- E. Technology used for e-hospital ?

MODEL PAPER

M. Sc. H&HIA-.....

ML&DC-III

**M. Sc. Hospital and Health Information Administration
Part I Main Examination (Month, year)
Paper - III**

Medical Language & Disease Classification

**Time: Three Hours
Maximum Marks: 70**

Attempt all Questions

All the parts of one question should be answered at one place.

Only one Supplementary Copy along with one main answer book is allowed

Q. No. 1. Long Answer (Attempt any two) 2X15 = 30

- A. Discuss about Origin of medical terms.
- B. Discuss about historical perspective of diagnostic and therapeutic tests.
- C. What do you understand about ICD.

Q. No. 2. Short Essay (Attempt any Two) 2X10 = 20

- A. Common sign and symptoms of disease conditions.
- B. What are the therapeutic tests, and procedures related to digestive system.
- C. Issues associated With ICD Development.

Q. No. 3. Short notes (Any four) 4X5 = 20

- A. Development Of Medical Terminology.
- B. What Is Reproductive System.
- C. Definition & Types Of Suffixes.
- D. Division Of The Body Into Body Cavities And Planes.
- E. Write Down Common Medical Terms And Meaning Of Those Terms.

MODEL PAPER

M. Sc. H&HIA-.....

Org. Beh.-IV

**M. Sc. Hospital and Health Information Administration
Part I Main Examination (Month, year)
Paper - IV
Organizational Behavior**

**Time: Three Hours
Maximum Marks: 70**

Attempt all Questions

All the parts of one question should be answered at one place.

Only one Supplementary Copy along with one main answer book is allowed

Q. No. 1. Long Answer (Attempt any two) 2X15 = 30

- A. Write down Definition of Management and discuss the Importance of Management in health care.
- B. Write down the Phases of decision making and discuss about the types of decision making.
- C. What do you understand about Personal Growth and Development. discuss.

Q. No. 2. Short Essay (Attempt any Two) 2X10 = 20

- A. What is Motivation discuss motivational approach..
- B. Define Learning discuss classical theory of learning.
- C. What are the Modern Management approaches.

Q. No. 3. Short notes (Any four) 4X5 = 20

- A. Role of a Manager.
- B. What is Decision cycle.
- C. Need for Management.
- D. Principles of reinforcement.
- E. Values and ethics.

MODEL PAPER

M. Sc. H&HIA-.....

HCF&TPA-I

**M. Sc. Hospital and Health Information Administration
Part II Main Examination (Month, year)
Paper - I
Health Care Financing & TPA**

**Time: Three Hours
Maximum Marks: 70**

Attempt all Questions
All the parts of one question should be answered at one place.
Only one Supplementary Copy along with one main answer book is allowed

Q. No. 1 Long Answer (Attempt any two) 2X15 = 30

- A. Discuss about Financial Management for Health Professionals.
- B. Discuss Financial accounting Vs. Cost accounting.
- C. Discuss Issues in Health Information Technology.

Q. No. 2 Short Essay (Attempt any Two) 2X10 = 20

- A. What is accounting information.
- B. What is Health Insurance & Third-Party Administrator?
- C. Discuss access and quality of care issues.

Q. No. 3 Short notes (Any four) 4X5 = 20

- A. Five types of Accounts Health Insurance.
- B. Preparation of various Financial Statements.
- C. Billing assessment of population health.
- D. Models of health care delivery.
- E. Information Technology and Systems.

MODEL PAPER

M. Sc. H&HIA-.....

Heal. Infor. -II

**M. Sc. Hospital and Health Information Administration
Part II Main Examination (Month, year)
Paper - II
Health Informatics**

**Time: Three Hours
Maximum Marks: 70**

Attempt all Questions

All the parts of one question should be answered at one place.

Only one Supplementary Copy along with one main answer book is allowed

Q. No. 1 Long Answer (Attempt any two) 2X15 = 30

- A. Discuss about Quality and process improvement
- B. Define Medical Ethics. Describe Basic Principles of medical ethics.
- C. What is clinical decision support system. Discuss in detail.

Q. No. 2 Short Essay (Attempt any Two) 2X10 = 20

- A. What is outcomes measurement.
- B. Write down about Code of Conduct for Health Information Professionals.
- C. What are the emerging health information systems?

Q. No. 3 Short notes (Any four) 4X5 = 20

- A. Evaluation of health information systems
- B. Electronic health record
- C. Care of terminally ill patient
- D. Organizational climate
- E. Clinical process re-engineering

MODEL PAPER

M. Sc. H&HIA-.....

Res. & its Appl.-III

**M. Sc. Hospital and Health Information Administration
Part II Main Examination (Month, year)
Paper - III
Research & its Applications**

**Time: Three Hours
Maximum Marks: 70**

Attempt all Questions

All the parts of one question should be answered at one place.

Only one Supplementary Copy along with one main answer book is allowed

Q. No. 1. Long Answer (Attempt any two) 2X15 = 30

- A. Define Research. Explain research methodology
- B. Describe about types of variables & scales of measurements
- C. What do you understand about Clinical trials/ Interventional studies

Q. No. 2. Short Essay (Attempt any Two) 2X10 = 20

- A. What is Biostatistics, Discuss in brief.
- B. What is Simple random sampling?
- C. Basics of Testing of Hypothesis

Q. No. 3 Short notes (Any four) 4X5 = 20

- A. Significance of correlation coefficient
- B. Cohort studies
- C. Multivariate Analysis
- D. Reliability & Validity
- E. Meta-analysis