

# MGM INSTITUTE OF HEALTH SCIENCES

(Deemed to be University u/s 3 of UGC Act, 1956) **Grade 'A++' Accredited by NAAC** 

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# **CHOICE BASED CREDIT SYSTEM**

(CBCS)

(with effect from 2022-23 Batches)

**Curriculum for** 

**Masters in Hospital Administration** 

Amended upto AC- 48/2023, Dated 12/12/2023

# **Amended History**

- 1. Approved in AC-42/2022, Resolution No. 4.4, Dated 26/04/2022.
- 2. As Amended in AC-42/2022 [Resolution No. 10.4.i], Dated 26/04/2022.
- 3. As Amended in AC-44/2022 [Resolution No. 6.6], Dated 09/12/2022. 4. As Amended in AC-48/2023 [Resolution No. 6.5], Dated 12/12/2023.

Resolution No. 4.4 of Academic Council (AC-42/2022): Resolved to accept synchronization of Semester I syllabus of Master in Public Health (MPH) Program & Master in Hospital Administration (MHA) Program and revision of syllabus for Semester II for MHA & MPH with effect from batch admitted in AY 2022-23, onwards. [ANNEXURE-45B]



#### MGM SCHOOL OF BIOMEDICAL SCIENCES

### (A constituent unit of MGM INSTITUTE OF HEALTHSCIENCES)

(Deemed to be University u/s 3 of UGC Act 1956) (Grade "A" Accredited by NAAC) Sector 1, Kamothe, Navi Mumbai-410209 Tel.No.:022-27437631, 27437632, 27432890

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# CHOICE BASED CREDIT SYSTEM (CBCS)

With effect from Academic Year 2022 – 23

Curriculum for

Master in Hospital Administration

First year (Semester I & II)

## **Proposed Program Outline:**

#### Semester I

	Course Name	Credits / Week				Hrs./ Semester				Marks		
Course Code		Lecture (L)	Seminar / Self Directed Learning (SDL)	Practical/ Clinical Posting (P)	Total Credits (C)	Lecture (L)	Seminar / Self Directed Learning (SDL)	Practical/ Clinical Posting (P)	Total Hrs. (H)	Internal Assessment	Semester Exam	Total
MHA 101 (T)	Introduction to Human Biology, Environment, Public Health & Hospital Industry	3	1	- 1	4	45	15	-	60	20	80	100
MHA 102 (T)	Introduction to Epidemiology & Biostatistics	3	1	20	4	45	15	2	60	20	80	100
MHA 103 (T)	Introduction to Health Care System in India and Demography	3	1		4	45	15	-	60	20	80	100
MHA 104 (T)	Introduction to Concepts & Principles of Management, Health Economics and Business Communication	3	1	50	4	45	15	-	60	20	80	100
MHA 105 (CP)	Practice of Hospital Administration - Basic			24	12		-	360	360	4	50	50
•	TOTAL	12	4	24	28	180	60	360	600	80	370	450

#### **Index MHA Semester II**

#### **SEMESTER II - REVISED**

			Credits	/ Week		Hrs./Semester				Marks		
Course Code	Course Name	Lecture (L)	Seminar /Self Directed Learning (SDL)	Practical/ Clinical Posting(P)	Total Credits (C)	Lecture (L)	Seminar /Self Directed Learning (SDL)	Practical/ Clinical Posting(P)	Total Hrs. (H)	Internal Assessment	Semester Exam	Total
MHA201(T)	Hospital Planning & Management & Organizational Behavior	4	-	-	4	60	-	-	60	20	80	100
MHA202(T)	Management Information System & Managerial Communication	4	-	-	4	60	-	-	60	20	80	100
MHA203(T)	Financial Management and Human Resource Management	4	-	-	4	60	-	-	60	20	80	100
MHA204(CP)	Practice of Hospital Administration–Advanced	-	-	20	10	-	-	300	300	-	50	50
CC001L	Research Methodology & Biostatistics (Core Course)	4	-	-	4	60	-	-	60	20	80	100
CC001P	Research Methodology & Biostatistics (Core Course)	-	-	4	2	-	-	60	60	10	40	50
	TOTAL	16	-	24	28	240	-	360	600	90	410	500

#### Resolution No. 6.5 of Academic Council (AC-48/2023):

(i) Resolved to grant Post-facto approval for correction in the index for Master in Public Health (MPH) Program Semester IV & Master in Hospital Administration (MHA) Program-Semester II & Semester IV for the batch admitted in the Academic Year- 2022-23 onwards [Annexure-48A & 48B].

# FIRST YEAR Master in Hospital Administration (MHA) SEMESTER – I

Code No.	CoreSubjects			
Lectures, Self-Directed Learning& Clinical Posting				
MHA101 T	Introduction to Human Biology, Environment, Public Health & Hospital Industry			
MHA 102 T	Introduction to Epidemiology & Biostatistics			
MHA 103 T	Introduction to Health Care System in India and Demography			
MHA 104 T	Introduction to Concepts & Principles of Management, Health Economics and Business Communication			
MHA 105 CP	Practice of Hospital Administration (Basic)			

MHA	Semester I
MHA 101 T	Introduction to Human Biology, Environment, Public Health &
(60 Hrs. / Credits – 04)	Hospital Industry

#### MHA 101 T:

## Course Contents / Syllabus

#### **Human Biology**

- Introduction--A Human Perspective, Chemistry of Life
- Cell Structure and Function, Tissues, Organ Systems, and Homeostasis
- Introduction to Anatomy & Physiology of Digestive System and Nutrition
- Introduction to Anatomy & Physiology of Respiratory and Cardiovascular System
- Introduction to Composition and Function of Blood
- Introduction to Anatomy & Physiology of Urinary System and Excretion
- Introduction to Anatomy & Physiology of Musculoskeletal System
- Introduction to Anatomy & Physiology of Nervous System
- Introduction to Anatomy & Physiology of Endocrine System
- Introduction to Reproductive System
- Introduction to Medical Genetics

#### **Environment**

- Environment & Health
- Water Sources, Pollution, Purification, Quality
- Air Composition, Pollution, Ventilation,
- Light Requirement, Measurement and Standards
- Noise Sources, Effects, Control
- Radiation Sources, Effects, Protection
- Introduction to Meteorology
- Housing and Health
- Disposal of Waste
- Disposal of Bio Medical Waste
- Visit to Water Treatment Plant
- Visit to Sewage Treatment Plant
- Visit to Bio Medical Waste Disposal Unit

#### **Public Health**

- History of Medicine
- Changing Concepts of Health
- Dimensions of Health
- Determinants of Health
- Concept of Disease
- Iceberg of Disease
- Changing Concepts in Public Health
- Concept of Control
- Concept of Prevention
- Levels of Prevention and Modes of Intervention
- Hospitals & Community
- Health Indicators
- Public Health Approach
- Public Health Problems in India
- Limitations of Public Health

# **Hospital Industry**

- Global Overview
- Hospital Industry in India
- Regulatory Councils, Accreditation and Laws related to hospital Opportunities, Issues and Challenges in hospital industry

MPH	Semester I
MHA 102 T	Introduction to Epidemiology & Biostatistics
(60 Hrs. / Credits – 04)	_

# MHA 102 T:Course Contents / Syllabus

#### **Epidemiology**

- History of Epidemiology
- Measurements in Epidemiology
- Incidence and Prevalence
- Descriptive Epidemiology
- Cross sectional study design
- Analytical Epidemiology
- Case control study design
- Cohort study design
- Experimental Epidemiology
- Randomized control trials
- Non-randomized control trial
- Introduction to confounding and bias
- Interpretation of association
- Causation and association
- Screening
- Screening tests –Sensitivity & Specificity
- Introduction to Infectious Disease Epidemiology
- Disease surveillance
- Outbreak investigation

#### **Biostatistics**

- Biostatistics Scope / Use
- Types of variables
- Scales of measurement
- Measures of central tendency
- Measures of dispersion
- Types of distribution
- Normal Distribution
- Sampling Methods
- Type1 and type 2 error
- Concept of P value and 95% confidence Interval
- Chi Square Test
- T Test
- Choosing appropriate statistical test
- Concept of Correlation
- Concept of regression
- Data Visualization
- Histogram
- Bar Chart
- Pie Diagram
- Introduction to SPSS
- Introduction to EpiInfo

MHA	Semester I
MHA 103 T	Introduction to Health Care System in India and Demography
(60 Hrs. Credits – 04)	

# MHA 103 T

### Course Contents / Syllabus

#### **Health Care System**

- Concept of Health Care
- Levels of Health Care
- Global overview of Health Care Systems
- Health Care System in India
- Health Care Delivery Infrastructure in India
- Health Care Delivery Workforce in India
- National Strategy for Health for All
- National Health Policy
- National Health Mission
- Overview of National Health Programmes
- Private Sector in Health Care

#### **Demography**

- Demographic Processes
- Demographic Cycle
- World Population Trends
- Demographic Trends in India
- Census
- Demographic Indicators
- Age Pyramid
- Sex ratio
- Population Density
- Migration
- Urbanization
- Literacy & Education
- Life Expectancy
- Fertility and factors associated
- Fertility Indicators
- Measures of Mortality
- Growth rate
- Vital Statistics
- Concept of Life Table

MHA 104 T (60 Hrs. Credits – 04)

# Introduction to Concepts & Principles of Management, Health Economics and Business Communication

## Course Contents / Syllabus

#### **Concepts & Principles of Management**

- Concept of Management
- Principles of Management
- Managerial functions
- Contemporary Management Practice
- Management & Administration
- Roles and Skills of Manager
- Time Management
- Strategic Management
- Health Planning & Planning Cycle
- Management methods based on Behavioral Sciences
- Quantitative Management Methods
- Organizing, Directing & Staffing
- Management Control System
- Use of Information System

#### **Health Economics**

- Basic concepts in health economics
- Micro and Macro economics
- Production Function
- Determinants of demand, supply and costs of production
- Supply & Demand for Health Care Personnel
- Concepts of efficiency, effectiveness, equity, elasticity of demand
- Concept of costing, marginal cost analysis, and opportunity cost
- Short term and long-term cost
- Budgeting
- Measuring health outcomes
- Principles and application of economic evaluation in health care
- Cost Benefit Analysis (CBA)
- Cost-Effective Analysis (CEA)
- Lorenz's Curve
- Genie's Coefficient
- Universal health coverage and role of health care financing
- Health Insurance& Health Care Financing
- Health sector reforms

#### **Business Communication**

- Principles of Effective Writing
- Frequently Made Mistakes in Business Writing
- Conventions of Letter Writing
- Approaches to Writing Claims and Responses
- Memoranda
- E-Mail Etiquette

- Agenda and Minutes of Meeting

- Report Writing
  Business Proposals
  CVs and Applications
  Presentation Skills

MHA	Semester I
MHA 105 CP	Practice of Hospital Administration (Basic)
(360 Hrs. Credits – 12)	

Sr. No.	Clinical Posting	No. of Hrs.
1	<ul> <li>UNDER the Supervision of Hospital Director</li> <li>Posting in various departments of Hospital on fortnightly rotatory basis</li> </ul>	360
Total		

# FIRST YEAR Master in Hospital Administration (MHA) SEMESTER – II

Code No.	Core Subjects		
Lectures, Self-Directed Learning& Clinical Posting			
MHA 201 T	Hospital Planning & Management & Organizational Behavior		
MHA 202 T	Management Information System & Managerial Communication		
MHA 203 T	Financial Management and Human Resource Management		
MHA 204 CP	Practice of Hospital Administration (Advanced)		
CC 001 L	Research Methodology & Biostatistics (core course)		
CC 001 P	Research Methodology & Biostatistics (core course)		

MHA Semester II

MHA 201 T (60 Hrs. / Credits – 04)

# Hospital Planning & Management & Organizational Behavior

## MPH 201 T:

#### Course Contents / Syllabus

- Introduction- evolution of hospital planning, changing health care concept in planning / designing, need for planning health care facilities, health care facility planning in India
- Steps in Hospital Planning-Need Assessment, Planning process, Appointment of Planning Teams/Consultants, Preparation of Project Report, sources of finance, site selection Appointment of Architect, Architect Report, Size of the Hospital, Design of the Hospital, Selection of the Contractor, tender documents
- Architect Report- Preparation of Architect's Brief, Selection of the Size, Preparation of the Master plan, Layout, Grouping, Zoning & Phasing of Activities, Circulation & Movements of Patients, Staff, Visitors, functional and space programming, hospital design, departmental layouts, inter- relationships between services
- Types of Hospital Organization& Statutory Requirements for Planning- Planning of 30,100,250 bedded hospital (general/specialty), Planning of 500, 750 and above bedded hospital (teaching/super-specialty/non-teaching specialty hospitals); Hospital standards and design: Building requirement- Entrance & Ambulatory Zone, Diagnostic Zone, Intermediate Zone, Critical zone, Service Zone, Administrative zone; Voluntary & Mandatory standards General standards, Mechanical standards, Electrical standards, standard for centralized medical gas system, standards for biomedical waste
- Project Management: PERT/CPM techniques, managing finance and other resources, equipment planning and procurement process, record-keeping, commissioning the facilities
- Departmental Planning: Planning for Out Patient Department/Accident/Emergency, Indoor accommodation, Ward design, Bed wise planning, special requirements of certain departments such as ICU, OT, Pediatric, Maternity ward; Planning for Water supply, Electricity, Drainage & Sewage disposal; Planning for Equipment& Purchase.
- Engineering Services and Utilities-Electrical system; water supply and sanitary system; air- conditioning and fresh air systems (HVAC); fire protection systems; centralised medical gas system; telecommunication system; transportation system; illumination.
- Environmental Control and Safety-General environmental control; infection control; radiological health; accidental injury prevention programme; occupational health; solid waste management; hospital safety programmes; bomb threat; alarm system; disaster preparedness; code blue procedures.
- Manpower Planning-Planning for various categories of Staff, Administrative action for Appointment, Training
- Hospital Clinical Services:Meaning and scope of patient care services significance of patient care role of administration in patient care classification of Hospitals.Ambulatory Services,Diagnostic Services,Therapeutic Services,Nursing Services,Rehabilitative Services,General, Specialty Services, Role of clinical services in the hospital services system,Professional Staff Management
- Hospital Support Services: Administrative care Unit, Hospital Store & Pharmacy, Engineering Department,
  Hospitality Services, Central Sterile Supply Department, Hospital Information System, Medical Record Department,
  Public relation in hospital-process & practices of patient relationship, counseling, patient doctor relationship,
  Security Services- Staff, Patients, New born unit, Female staff/Patients, Stores; Transport Services (External &
  Internal), Mortuary
- Organizational Behavior: Concept, Nature, Characteristics, Conceptual Foundations and Importance, Models of Organizational Behavior, Management Challenge, A Paradigm Shift, Relationship with Other Fields, Organizational Behavior: Cognitive Framework, Behaviouristic Framework and Social Cognitive Framework.
- Perception and Attribution: Concept, Nature, Process, Importance, Management and Behavioral Applications of Perception; Attitude: Concept, Process and Importance, Attitude Measurement. Attitudes and Workforce Diversity; Personality: Concept, Nature, Types and Theories of Personality Shaping, Personality Attitude and Job Satisfaction; Learning: Concept and Theories of Learning.
- Motivation: Concepts and Their Application, Principles, Theories, Employee Recognition, Involvement, Motivating
  a Diverse Workforce; Leadership: Concept, Function, Style and Theories of Leadership-Trait, Behavioral and
  Situational Theories, Analysis of Interpersonal Relationship, Group Dynamics: Definition, Stages of Group

- Development, Group Cohesiveness, Formal and Informal Groups, Group Processes and Decision Making, Dysfunctional Groups.
- Organizational Power and Politics: Concept, Sources of Power, Distinction between Power, Authority and
  Influence, Approaches to Power, Political Implications of Power: Dysfunctional Uses of Power; Knowledge
  Management & Emotional Intelligence in Contemporary Business Organization; Organizational Change: Concept,
  Nature, Resistance to change, Managing resistance to change, Implementing Change, Kurt Lewin Theory of
  Change. Organizational Design: Structure, size, technology, environment of organization
- Organizational Roles: Concept of roles; role dynamics, Conflict: Concept, Sources, Types, Functionality and Dysfunctionality of Conflict, Classification of Conflict Intra, Individual, Interpersonal, Intergroup and Organizational, Resolution of Conflict, Meaning and Types of Grievance and Process of Grievance
- Handling; Stress: Understanding Stress and Its Consequences, Causes of Stress, Managing Stress.
- Organizational Culture: Concept, Characteristics, Elements of Culture, Implications of Organization culture, Process of Organizational Culture; Organization Development: Organizational Change and Culture, Environment, organizational culture and climate; contemporary issues relating to business situations. Process of change and Organizational Development.

МРН	Semester I
MHA 202 T	Management Information System & Managerial
(60 Hrs. / Credits – 04)	Communication

### MHA 202 T:

### Course Contents / Syllabus

- Basic Information Concepts and Definitions
- Need for Information and Information Systems (IS) in an organization
- Characteristics of Information and Organization with respect to organization form, structure, philosophy, hierarchy etc.
- Types of IS Transaction
- Operational Control
- Management Control
- Decision Support
- Executive Information Systems
- Determining Information Needs for an Organization/Individual Manager
- Overview of use of data flow method, analysis of information for decision processes etc.
- Strategic use of Information and IS Use of Information for Customer Bonding
- For Knowledge Management
- For innovation,
- For Managing Business Risks
- For Creating a new business models and new business reality.
- Information Security –
- Sensitize students to the need for information security
- Concepts such as confidentiality, Integrity and Availability.
- Types of threats and risk, overview of some of the manual, procedural and automated controls in real life IT environments.
- Introduction to managerial communication, understanding the component of communication, small group and team communication, business and professional communication.
- Written Analysis and communication, Spoken Business communication
- Cultural Identity and intercultural communication, difficult communication
- Intercultural communication competence, Organizational communication
- Persuasive Communication, Barriers to communication.

MHA	Semester II
MHA 203 T	Financial Management and Human Resource Management
(60  Hrs. Credits - 04)	

### MHA 203 T

### Course Contents / Syllabus

- Introduction- Origin of Accounting & its importance, Different disciplines in Accounting, Difference between Accounts, Costing, Finance, Taxation, Audit, etc.
- Double Entry System of Accounts-Transactions Debit & Credit, Classification of Accounts, Rules of Accounts,
   Convention, concepts & norms of Accounts, Advantages of Double Entry System of Accounts
- Journal &Ledger: Types of Journals/Subsidiary Books, Passing of Journal Entries, writing of narrations, Posting in Ledger, Balancing of Ledger Accounts
- Depreciation- Why depreciation, Mode of Depreciations
- Preparation of Trial Balance & Final Accounts-Correction of mistakes in Trial Balance, Difficulties in locating the mistakes & its consequences, Profit making Hospitals, Non-profit making Hospitals.
- Working Capital Management- Needs of Working Capital, Estimation of Working Capital requirement, Different sources of funds, Norms to be considered for Bank Loans
- Changes in Financial Statements-Ratio Analysis, Limitation of Ratio Analysis.
- Budgetary Control-Difference between Budget, Estimate & Projection, Types of Budget with special reference to Functional Budget, How to monitor a Budget
- Elements of Cost of a Product/Service-Direct & Indirect Cost, Allocation of Overhead Cost, Analysis of Marginal Costing & Unit Costing. Accounting for manufacturing operations, classification of manufacturing costs, Accounting for manufacturing costs
- Perspectives in human resource management Evolution of human resource management the importance of the human factor - objectives of human resource management - role of human resource manager - human resource policies - computer applications in human resource management
- The concept of best fit employee Importance of human resource planning, Job Analysis, Job Description & Specifications, forecasting human resource requirement internal and external sources. Selection process-screening tests validation interview medical examination recruitment introduction importance practices socialization benefits.
- Training and executive development Types of training, methods, purpose, benefits and resistance. Executive development programmes, common practices, benefits, self development, knowledge management.
- Sustaining employee interest Wage Administration, Salary Administration. Employee Benefits & Social Security compensation plan, reward, motivation, theories of motivation, career management, development, mentor, protege relationships.
- Performance evaluation and control process Method of performance evaluation, feedback, industry practices,
   Promotion, demotion, transfer and separation, Employee Turnover, implication of job change. The control process-importance, methods, requirement of effective control systems grievances causes, implications, redressal methods.
- Industrial Relations-Unions & their role, Settlement of disputes, Industrial Dispute Act, Collective bargaining.
- Issues Relating to Management of Professionals-Consultants, Specialists, Medical Officers, Nursing Staff, Other Paramedical Staff.
- Discipline- Punctuality, Dress code, Identification, Behaviors of staff, Disciplinary action, Law of natural justice.
- Brief introduction to Rules and regulations:-Minimum wages act, The ESI Act-1948-the maternity benefit act-1961-the workmen's compensation act-1923-the payment of gratuity act-1972- Employee provident funds and miscellaneus provisions act-1952. Retirement, health and life insurance, The Trade Unions Act

МНА	Semester II
MHA 204 CP	Practice of Hospital Administration (Advance)
(300 Hrs. Credits – 10)	

Sr. No.	Clinical Posting	No. of Hrs.
1	UNDER the Supervision of Hospital Director  Posting in various departments of Hospital on fortnightly rotatory basis	300
	Total	300 Hrs.

Name of the Course	Research Methodology & Biostatistics (Core Course)
Course Code	CC 001 L

Course Outcome	Student will be able to understand develop statistical models, research designs with the understating of background theory of various commonly
Course Outcome	used statistical techniques as well as analysis interpretation & reporting of results and use of statistical software.

Sr. No.	Topics	No. of Hrs.
A	Research Methodology:	
1	Scientific Methods of Research: Definition of Research, Assumptions, Operations and Aims of Scientific Research. Research Process, Significance and Criteria of Good Research, Research Methods versus Methodology, Different Steps in Writing Report, Technique of Interpretation, Precaution in interpretation, Significance of Report Writing, Layout of the Research Report	5
2	Research Designs: Observational Studies: Descriptive, explanatory, and exploratory, Experimental Studies: Pre-test design, post-test design, Follow-up or longitudinal design, Cohort Studies, Case Control Studies, Cross sectional studies, Intervention studies, Panel Studies.	5
3	Sampling Designs: Census and Sample Survey, Implications of a Sample Design, Steps in Sampling Design Criteria of Selecting a Sampling Procedure, Characteristics of a Good Sample Design, Different Types of Sample Designs (Probability sampling and non probability sampling), How to Select a Random Sample?, Systematic sampling, Stratified sampling, Cluster sampling, Area sampling, Multi-stage sampling, Sampling with probability proportional to size, Sequential sampling.	5
4	Measurement in research: Measurement Scales, Sources of Error in Measurement, Tests of Sound Measurement, Technique of Developing Measurement Tools, Scaling Meaning of Scaling, Scale Classification Bases, Important Scaling Techniques, Scale Construction Techniques, Possible sources of error in measurement, Tests of sound Measurement	5
5	Methods of Data Collection: Types of data, Collection of Primary Data, Observation Method, Interview Method, Collection of Primary Data	5
6	Sampling Fundamentals: Need and importance for Sampling, Central Limit Theorem, Sampling Theory, Concept of Standard Error, Estimation, Estimating the Population Mean Estimating Population Proportion, Sample Size and its Determination, Determination of Sample Size through the Approach Based on Precision Rate and Confidence Level.	5
В	Biostatistics	
7	Data Presentation: Types of numerical data: Nominal, Ordinal, Ranked, Discrete and continuous. Tables: Frequency distributions, Relative frequency, Graph: Bar charts, Histograms, Frequency polygons, one way scatter plots, Box plots, two way scatter	3

Measures of Central Tendency and Dispersion: Mean, Median, Mode Range, Inter	
8 quartile range, variance and Standard Deviation, Coefficient of variation, grouped mean and grouped standard deviation (including merits and demerits).	3
Testing of Hypotheses: Definition, Basic Concepts, Procedure for Hypothesis Testing, Measuring the Power of a Hypothesis Test, Normal distribution, data transformationImportant Parametric Tests, Hypothesis Testing of Means, Hypothesis Testing for Differences between Means, Hypothesis Testing for Comparing Two Related Samples, Hypothesis Testing of Proportions, Hypothesis Testing for Difference between Proportions, Hypothesis Testing for Comparing a Variance to Some Hypothesized Population Variance, Testing the Equality of Variances of Two Normal Populations.	6
Chi-square Test: Chi-square as a Non-parametric Test, Conditions for the Application Chi-square test, Steps Involved in Applying Chi-square Test, Alternative Formula, Yates' Correction, and Coefficient by Contingency.	2
Measures of Relationship: Need and meaning, Correlation and Simple Regression Analysis	2
Analysis of Variance and Covariance: Analysis of Variance (ANOVA):Concept and technique of ANOVA, One-way ANOVA, Two-way ANOVA, ANOVA in Latin-Square Design Analysis of Co-variance (ANOCOVA), ANOCOVA Technique.	4
Nonparametric or Distribution-free Tests: Important Nonparametric or Distribution-free Test Sign test, Wilcoxon signed-Rank Test, Wilcoxon Rank Sum Test: Mann-Whitney U test Kruskal Walli's test, Friedman's test, and Spearman Correlation test.	3
Vital Health Statistics: Measurement of Population: rate, crude rate, specific rate, Measurement of fertility: specific fertility rate, Total fertility rate, Reproduction rate, Gross Reproduction Rate, Net Reproduction Rate, Measures related to mortality: Crude Death Rate (CDR), Age-specific death Rate, Infant and child mortality rate, Measures related to morbidity.	4
Computer Application Use of Computer in data analysis and research, Use of Software and Statistical package.  Introduction to SPSS. Importing data from excel, access, tab and comma separated files. Entering data, labeling a variable, coding and recoding a categorical and continuous variable. Converting data from string to numeric variables, sorting & filtering, merging, appending data sets.  Frequencies, descriptive statistics, cross tabulations. Diagrammatic presentation include histogram, bar chart, pie chart, scatter diagram, box plot, line chart. Parametric test of hypothesis-one sample, Independent and paired sample t test, one way ANOVA& post HOC test. Testing for normality, Chi-square test with measures of association. Pearson correlation. Non parametric test.	3
<u> </u>	60 hrs

# ${\tt CC\,001P-Research\,Methodology\,\&\,Biostatistics}$

Sr. No.	Topics	No. of Hrs
A	Research Methodology	
1	Sampling Designs	4
2	Measurement in research	5
3	Methods of Data Collection	3
4	Sampling Fundamentals	3
В	Biostatistics	
5	Data Presentation	4
6	Measures of Central Tendency and Dispersion	4
7	Testing of Hypotheses	12
8	Chi-square Test	2
9	Measures of Relationship	3
10	Analysis of Variance and Covariance	4
11	Nonparametric or Distribution-free Tests	4
12	Vital Health Statistics: Measurement of Population	6
13	Computer Application Using Statistical Software	6
	Total	60 hrs

# REVISED SCHEME OF UNIVERISTY EXAMINATION FOR PG PROGRAM (w.e.f. AY 2022-23) MASTER of PUBLIC HEALTH (MPH)

# & MASTER of HOSPITAL ADMINISTRATION (MHA)

#### **SEMESTER I & II**

General structure / patterns for setting up question papers for Theory / Practical courses, their evaluation weightage for PG Programs (MPH & MHA) are given in following tables

#### Marks Scheme for the University Examination

Final Theory Mark will be 100 Marks (80 Marks University Theory Exam + 20 Marks Internal Assessment)

Theory Paper Pattern: Marks: 80 Time: 3 Hrs.

Question Paper	Question No.	Question Type	Marks Distribution	Marks Per Section
Section A	1	LAQ (1 out of 2)	1 X 10 Marks = 10	40
Section A	2	SAQ (5 out of 6)	5 X 06 Marks = 30	40
Section B	3	LAQ (1 out of 2)	1 X 10 Marks = 10	40
Section D	4	SAQ ( 5 out of 6)	5 X 06 Marks = 30	40
			TOTAL	80 Marks

Note: If the paper is combination of two sub-subjects, the each section is to be dedicated for separate sub-subject for 50% weightage each.

#### Practical Examination, if applicable, will be as per last approved pattern

#### **Internal Assessment Pattern - Theory**

Marks - 20

Internal Theory Examination	30 Marks / 2 = 15 Marks
Seminar / Assignment	10 Marks / $2 = 05$ Marks
Total	20 Marks

#### Resolution No. 10.4 of Academic Council (AC-42/2022):

i) "Resolved to accept "50% eligibility in internal assessment" pattern for all the CBCS programs (UG & PG) running under the constituent units of MGMIHS.(MGM School of Biomedical Sciences, MGM School of Physiotherapy, MGM Medical College (M.Sc. Medical 3 year courses).

This will be applicable to all existing batches (for remaining regular examinations) and forthcoming batches from June 2022 onwards"

Resolution No. 6.6 of Academic Council (AC-44/2022): Resolved to approve the syllabus for III & IV Semester of Master in Hospital Administration (MHA) [ANNEXURE-62], to be implemented from batch admitted in AY 2022-23 onwards

# CHOICE BASED CREDIT SYSTEM

(CBCS)

(with effect from 2022-23 Batches)

# **Curriculum for**

# **Masters in Hospital Administration**

SEM III & IV

# **Program Outline:**

#### Semester III

210000			Credit	s / Week	(c)	á (6)	Hrs./ S	emester	8	1	Vlarks	5.0 8
Course Code	Course Name	Lecture (L)	Seminar / Self Directed Learning (SDL)	Practical/ Clinical Posting (P)	Total Credits (C)	Lecture (L)	Seminar / Self Directed Learning (SDL)	Practical/ Clinical Posting (P)	Total Hrs. (H)	Internal Assessment	Semester Exam	Total
MHA 301 (T)	Quality Management and Accreditation in Hospital	3	1		4	45	15	-	60	20	80	100
MHA 302 (T)	Services Management, Health Insurance, Marketing Management	3	1		4	45	15		60	20	80	100
MHA 303 (T)	Legal Framework in hospital & Strategic Management	3	1		4	45	15	•	60	20	80	100
MHA 304 (T)	Material Management & Medical Technology Management	3	1		4	45	15		60	20	80	100
MHA 305 (P)	Practice of Hospital Administration - Project		*	16	8	-0		360	360		100	100
TOTAL		12	4	16	24	180	60	360	600	80	420	500

#### SEMESTER IV – REVISED

			Credits/Week				Hrs./Sen	nester			Marks	
Course Code	Course Name	Lectur e (L)	Seminar /Self Directed Learning (SDL)	Practical/ Clinical Posting (P)	Total Credits (C)	Lecture (L)	Seminar /Self Directed Learning (SDL)	Practical/ Clinical Posting (P)	Total Hrs . (H)	Internal Assessme nt	Semes ter Exam	Total
GE001 (T)	Pursuit of Inner Self Excellence (POISE)											
GE002 (T)	Bioethics, Biosafety, IPR and Technology Transfer	4	-	-	4	60	-	-	60	20	80	100
GE003(T)	Disaster Management											
GE004 (T)	Human Rights											
MHA 401(P)	Dissertation	-	-	36	18	-	-	540	540	-	200	200
TOTA	AL	4	-	36	22	60	0	540	600	20	280	300

### Resolution No. 6.5 of Academic Council (AC-48/2023):

(i) Resolved to grant Post-facto approval for correction in the index for Master in Public Health (MPH) Program Semester IV & Master in Hospital Administration (MHA) Program-Semester II & Semester IV for the batch admitted in the Academic Year- 2022-23 onwards [Annexure-48A & 48B].

### SECOND YEAR

### **Semester III**

# MHA 301 T: QUALITY MANAGEMENT & ACCREDITATION IN HOSPITALINDUSTRY

#### **Total Hours:60**

Course objective	<ul> <li>The course is design to impart multi-dimensional knowledge about Quality management in the hospital to the students.</li> <li>In this course students will learn about the Quality accreditation, control and management in general and in details for hospitals.</li> <li>Course deals with the subjects related to Introduction, processes and policies of ensuring quality in the patient care activities.</li> </ul>
Course outcomes	<ul> <li>The students after completing this course would be able to understand about Quality management in hospitals and other healthcare facilities.</li> <li>Students would know the Quality in operational activities and role of each stakeholder of hospital industry in maintaining quality management.</li> <li>The students can take up responsibilities of managing specific departments in the hospital for initiating, maintaining and controlling quality in the hospital.</li> </ul>

**Unit I: Evolution of quality movement**- Quality assurance, total quality management, continuous quality improvement, Theories & principle of Quality Assurance: Principles, Juran, Triology, Kaizen, Philip Crosby's principle,

**Unit II: Quality management initiatives in health care-** Need & Benefits for quality management in healthcare, Quality Management Programme, ISO clauses, quality manual, quality of clinical services, Critical Pathways, Medical Audits, , Performance review – Assessment / Methods, Quality Management of diagnostic facilities, Assessment of Client satisfaction

**Unit III: Bench marking of quality standard-** Quality Circle of India, Role of Quality Council of India (QCI), NABL, NABH, JCI, BIS, ACHS Accreditation

**Unit IV: Implementation strategies for Quality Programmes-** Top Management Commitment, Organizing Implementation, Action Plan, Group Meeting, Training, documentation, internal audit, application for certificate, final audit, Leadership issues. Selection of pilot projects, Quality initiatives in Indian Health Care Organisation.

#### Reference:

- 1. Sundara Raju, S.M., Total Quality Management: A Primer, Tata McGraw Hill, 1995.
- 2. Srenivasan, N.S. and V. Narayana, Managing Quality Concepts and Tasks, New Age International, 1996.
- 3. Shailendra Nigam, Total Quality Management (An Integrated Approach), Excel

- Books, New Delhi, 2005.
- 4. James R Evans, James W Dean, Jr., *Total Quality (Management, Organisation and Stragtegy)*, Excel Books, New Delhi, 2 Edition.

# MHA 302 T: SERVICES MANAGEMENT, HEALTH INSURANCE, MARKETING MANAGMENT

Course objective	<ul> <li>The course is design to impart knowledge of the hospital insurance to the students.</li> <li>The hospital as an industry comprised of many small and large organizations. In this course students will learn about the health insurance aspect in general and in details in such organizations.</li> <li>Course deals with the subjects related to hospital applications, TPA and cash-lessfacilities in the hospital care.</li> <li>The course is design to impart knowledge of the hospital services to the students.</li> <li>The hospital as an industry comprised of many small and large organizations. In this course students will learn about the need, plan and implementation of services and departments.</li> <li>Course deals with the subjects related to planning, organizing, leading and controlling the manpower, equipments, services and operations of hospital services.</li> <li>The course is design to impart knowledge of the hospital marketing services to the students.</li> <li>The hospital as an industry comprised of many small and large organizations. The organizations are competing against each other to attract patients and increase footfall in the hospitals. In this course students will learn about the need, plan and implementation of the hospital marketing services.</li> <li>Course deals with the subjects related to planning, organizing, leading and controlling the brand positioning, creating advertisement, campaign, CRM, Relationship with stakeholders etc.</li> </ul>
Course outcomes	<ul> <li>The students after completing this course would be able to understand about health insurance and its applications.</li> <li>Students would know all aspect of health insurance and all stakeholders of involved in providing cash-less service to patients.</li> <li>They would also be able to work in any organization, who has health insurance activities like insurance companies, TPA and hospitals based on the learning of this course.</li> <li>The students can take up responsibilities of managing health insurance patients and services in any hospital.</li> <li>The students after completing this course would be able to understand about hospital services.</li> <li>Students would know all aspect of dealing with all facilities and stakeholders of hospital service for organizing better patients' management.</li> <li>They would also be able to work in any hospitals.</li> <li>The students can take up responsibilities of managing hospital services in any hospital.</li> <li>The students after completing this course would be able to understand about hospital marketing services.</li> <li>Students would be able to create marketing activities to maintain a better relationship with all stakeholders.</li> <li>These future health care administrators feel empowered for creating better value proposition for the hospital.</li> </ul>

They would also be able to work in any organization, when given an opportunity for

brand positioning.

The students can take up responsibilities of managing hospital marketing services in any hospital.

#### **SERVICES MANAGEMENT**

Unit One: Services Culture: Responsiveness, accountability, tangibility, accessibility,

**Unit Two:** Customer Relationship Management (CRM) – Identification of customer, Classificationinto internal and external customer, customer satisfaction, customer value, maintaining relationship

**Unit Three: Crisis Management:** Handling difficult situation for both internal as well as internal customer, Grievances Handling

#### **Reference:**

- Hospital Planning, WHO, Geneva, 1984.
- Kunders G.D., Gopinath S., and Katakam A. Hospital Planning, Design and Management, TataMcGraw Hill, New Delhi, 1999
- Arun Kumar, (ed) Encyclopedia of Hospital Administration and Development, Anmol publications, New Delhi, 2000.
- Srinivasan, A.V. (ed), Managing a Modern Hospital, Chapter 2, Response Books, New Delhi, 2000.
- Padmanand V. and P.C. Jain, Doing Business in India, Response Books, New Delhi, 2000.
- Madhuri Sharma, Essentials for hospital support services and physical infrastructure, JaypeeBrothers Publications.
- Sakharkar BM, *Principles of hospitals administration and planning*, Jaypee Brothers publications.
- Francis CM, Mario C de Souza: Hospital Administration, New Delhi, 2000.
- Reaction of patients towards evening OP services in Delhi Hospitals, *Hospital Administration*, 14(13), 1977.
- Chakravarthy S: *Planning of Surgical Suites*, National workshop on hospital planning and Design, AIIMS, New Delhi, 1987.

#### **HEALTH INSURANCE**

**Unit I: Introduction to insurance industry**- Health insurance reforms, health insurance in developing and developed countries, Health insurance in India, Insurance as a Risk Management Technique: Principle of Indemnity, Insurable Interest, subrogation, utmost good faith. Requisites of insurable risks. Characteristics of Insurance contract, cooling off period concept, co-pay concept

**Unit II: Functions of Insurers**- Production, Underwriting, Rate Making, Managing Claims and Losses, Investment & Financing, Accounting & Record Keeping and other miscellaneous functions, Types of Insurers, Reinsurance: the concept, uses and advantages. Marketing channels: Agents & brokers professionalism, remuneration, responsibilities, classification, criteria for appointment and capitaladequacy norms for broker, an overview of IRDA.

**Unit III: Form of Health Insurance in India-** Social Health Insurance (mandatory health insurance schemes or government run schemes) - Central Government Health Schemes (C G H

S) Employee and State Insurance Schemes (ESIS), Other Government Initiatives, Health insurance initiatives by State Governments, nonprofit social insurance scheme in India, , Actuarial Insurance; Employer based Scheme; Voluntary health insurance schemes or private-for-profit schemes-Bajaj Allianz, ICICI Lombard, Royal Sundaram Group, Cholamandalam General Insurance; Insurance offered by NGOs / community-based health insurance (nonprofit social insurance scheme in India) - ACCORD/ ASHWINI Health Insurance Scheme, Aga Khan Health Services, ASSEFA (Association of Sarva Sewa Farms Kottar Social Service Society (KSSS), Mathadi Hospital Trust Medinova Health, Card Scheme, Raigarh Ambikapur Health Association (RAHA), Medical Insurance Scheme, Self Employed Women's Association (SEWA), Tribhuvandas Foundation, Students Health Home

Unit IV: Health Insurance in US-indemnity based insurance, managed indemnity, HMO, PPO, POS

**Unit V: Micro-Insurance in India-** Need, financing, role of private sector, present product, long term sustainability, major problem in traditional model

**Unit VI: Concerns, Challenges and the Way Ahead-** Different Health Insurance Policies – Analysis and Management, Concept of combined Life Insurance and Health Insurance, GOI & State Govt. Policyin implementation of Health insurance, Hospitals / TPA / Insurance Company Relationship and Problems

**Unit VII: Government's Role in Health Care:** Need for Government intervention in the market - Price Controls - Support Prices and Administered Prices - Prevention and control of monopoly - Protection of consumers' interest - Economic Liberalization - Process of disinvestments - Need and methods - Policy planning as a guide to overall business development

**Unit VIII:** Health Sector Reform in India, Health and economic development, Pharmacoeconomics, Health care financing in India

#### Reference:

- 1. Dwivedi, D.N,: Micro Economic Theory, Vikas Publications, New Delh, 1996.
- 2. James Henderson: Health Economics and policy South Western College publishing, International Thamson Publishing, USA 1999.
- 3. Paul S.: Readings in Economics, Tata McGraw Hill, New Delhi, 1992.
- 4. Rexford E. Santerre: Health Economics Dryden Publishers, Florida (U.S.A),2000.
- 5. Mills.A.& Lee,K: Economics of Health, OUP Oxford, 1983
- 6. UNDP: Human Development report, OUP, Newyork (recent three Years)

#### **MARKETING MANAGMENT**

**Unit I:** Service marketing concepts- Introduction, Growth of the Service Sector, The Concept of Service, Characteristics of Services- Four I's of services - Intangibility, Inconsistency, Inseparability and Inventory; Classification of Services, Designing the Service, Services marketing mix, 3Ps of service marketing-People- Physical evidence: -Process-Service quality; Service quality dimensions, Distinctive nature of services marketing

**Unit II: Strategic Marketing Management for Services-** Matching Demand and Supply through Capacity Planning and Segmentation, Role of HR & Internal Marketing of a Service, External versus Internal Orientation of Service Strategy.

**Unit II: Delivering quality services-** Causes of Service-Quality Gaps: The Customer Expectations versus Perceived Service Gap, Factors and Techniques to Resolve this Gap –Gaps in Service - Quality Standards, Factors and Solutions - The Service Performance Gap –Key

Factors and Strategies for Closing the Gap - External Communication to the Customer: the Promise versus Delivery Gap - DevelopingAppropriate and Effective Communication about Service Quality

**Unit IV: Pricing of Health services**- Definition of price-cost-value-Factors to be considered for pricing of services - Pricing Objectives- profit oriented -Market skimming -.Market penetration —Operations and Patronage oriented objectives -Pricing Strategies - Cost based pricing-Competition based pricing - Demand based pricing--Price discounting-Odd pricing-Place differentiates-Quantity differentiates- Penetration pricing- Value pricing-Complementary pricing-Price bundling-Market segmentation and pricing.

**Unit V: Marketing Hospital Services-** Developing a positioning strategy, Marketing and medical ethics, promotional method in hospital sector, medical camp, conferences, internet medicine, public interest programmes, Corporate marketing, referral doctor system, Marketing for TPA and Cash Patients, advertising media – press, radio, television, films, hoardings, etc – media relations.-Branding, Customer Relationship Management (CRM), Marketing of Hospital Services of Non Profit Organizations

#### Reference:

- Kotler Philip, Marketing Management (Millennium Edition), PH1, New Delhi, 2001.
- Zeithaml Bitner, yalarie A., Services Marketing Cases in Marketing Management,
- McGraw Hill, New York, 1996.
- Srinivasan.R, Services Marketing (The Indian context), Prentice- Hall India, New Delhi.
- Bhattacharya .C., Services Marketing, Excel Books, New Delhi, 2006.
- Ravi Shankar, Services Marketing (Indian Perspective), Excel Books New Delhi 2004.
- Christopher Lovelock & Jochen Wirtz, Services Marketing (People, Technology and Strategy), Person Education, New Delhi, 2004.
- Saxena, Rajan, Marketing Management, Tata McGraw Hill, new Delhi, 1997.
- Still, Richard R. Edward W. Cundiff and Norman A.P. Govani, Sales Management PH1, New Delhi, 1997.
- Milica Z.Bookman, Karla R.Bookman; Medical Tourism in Developing Countries., PalgraveMacmillan. 2007

#### MHA 303 T: LEGAL FRAMEWORK IN HOSPITAL & STRATEGIC MANAGEMENT

**Total Hours: 60** 

# Course objective

- The course is design to impart knowledge of the legal aspect to the students.
- The hospital as an industry comprised of many cases. In this course students will learn about those laws, which are applicable for hospitals.
- Course deals with the cases or live situations, where students will be briefed about the legal implications.
- The course is design to impart knowledge of the hospital strategic management to the students.
- The hospitals have to compete against each other to attract patients and increase footfall in the hospitals. Only with the strongest will survive. The students in this course will be taught about the strategy formulation and implementation.

	Course deals with the subjects related to strategy planning, organizing, leading and controlling in the hospital.
	• The students after completing this course would be able to understand about legal implications in the hospital.
Course	• Students would know all aspect of those areas, which create or may create areas of legal consequences for the hospital.
outcomes	• They would also be able to understand, how to deal with such situations, where hospital is facing legal actions or may face such situations.
	<ul> <li>The students will be made aware and taught to be empowered to deal with legal issues.</li> <li>The students after completing this course would be able to understand about hospital strategic management.</li> </ul>
	• These future health care administrators feel empowered forstrategymanagement for the hospital.
	• They would also be able to work in any organization, when given an opportunity for leading position.
	The students can take up responsibilities of managing hospital departments in any hospital.

#### LEGAL FRAMEWORK

**Unit I: Introduction & Legal Procedures**-Court, Affidavit, Evidence, Complaint, Investigation, Oath, Offence, Warrant, Summons; Inquest-Police Inquest, Magistrates Inquest; Criminal Courts in India & their Powers, General Important Legal Knowledge Pertaining to IPC, CRPC, Civil PC, Evidence Act; Introduction to Indian Constitution, Consumer Protection Act 1986.

**Unit II: Fundamental Rights-** Rights & Responsibilities of Medical Person, Hippocratic Oath, Declaration of Geneva; List of Offences & Professional Misconduct of Doctors as per Medical Council of India; Medical Negligence & Compensation, Error & Commissions, Medical Ethics/Doctor Patient Relationship; Preventive Steps for Doctors/Hospitals to Avoid Litigation- Consent Form, Life Support, Dying Declaration, Death Certificate, High Risk, Post Mortem, Medico Legal Aspects of Emergency Services.

**Unit III: Laws relating to Hospital formation**-Promotion & Forming society, Nursing Home-Registration Act, The Companies Act, Law of Partnership, A Sample Constitution for the Hospital, The Tamil Nadu Clinics Act, Bombay nursing home act, Indian medical council act, State medical council, homeopathic medical council act, 1989, dentist act. Nursing council act,

**Unit IV: Laws relating Purchases and funding-** Law of contracts, Law of Insurance, Export Import Policy, FEMA-Exemption of Income Tax for Donations-Tax Obligations: Filing Returns and Deductions at Source.

**Unit V: Laws pertaining to Health**- Central Births and Deaths Registration Act, 1969- Recent amendments; Medical Termination of Pregnancy Act, 1971; Infant Milk Substitutes, Feeding Bottles and Infant Food Act, 1992, Mental health act, laws relating to communicable diseases, International health regulations, epidemic diseases act, . Environmental protection act, 1986, The air (prevention and control of) pollution act 1981, international standards of drinking water

**Unit VI: Laws pertaining to Hospitals**-Transplantation of Human Organs Act, 1994, Prenatal Diagnostic Techniques (Regulation and Prevention of Misuse) Act, 1994; The Biomedical Waste (Management and Handling) Rules-Radiation Safety System; Insurance Policy-General Claims Procedure, Rules relating to blood bank

#### Reference:

- 1. Consumer Protection Act. 1986.
- 2. Francis D., Government and Business, Himalaya Publishing House, 1988.
- 3. Gupta D and Gupta, S. Government and business, Vikas Publishing House 1987
- 4. Varma, D.P.S Monopolies, Trade Regulations and Consumer Protection, Tata McGraw Hill, NewDelhi, 1985.
- 5. R.K. Chaube, Consumer Protection and the Medical Profession, Jaypee Publishing, New Delhi, 2000.
- 6. Steven D. Edwards, Nursing Ethics, A Principle Based Approach, Macmillan Press Ltd., London,1996.
- 7. Indian Penal code, Indian Evidence Act, Criminal Procedure Code
- 8. Industrial Disputes Act, Indian Companies Act
- 9. Indian Medical Council Act.
- 10. Andhra Pradesh Private Medical care (Establishment, registration and regulation Act, 2002

#### **STRATEGIC MANAGEMENT**

**Unit I:** Concepts of Strategic management- SM Process, Vision & Mission, External Environmental Analysis, General Environment, Industry Environment, Porters 5 Forces, Internal Environmental Analysis- Components, Resources, Capabilities, Competence, Competitive Advantage, Value Chain Analysis.

**Unit II: Evaluation of strategy:-** SWOT, PEST, and other similar ways of analysis, CAPA, fishbonediagram and other similar tools for corrective and preventive steps.

**Unit III: Business Level Strategy-** Customers, Segments, Markets, Cost Leadership, Differentiation, Competitive Rivalry & Competitive Dynamics

**Unit IV: Corporate Level Strategy-** Diversification, Integration, Restructuring, M&A, New market and product development, Corporate Social Responsibility and Corporate governance.

**Unit V: Outsourcing as a strategy:-** Various activities for outsourcing, Benefits of outsourcing, growthand drivers of outsourcing, when and what to outsource.

#### Reference:

- 1. Strategic Management Thompson & Striekland McGraw Hill Irwin
- 2. Competitive advantage Michael Porter
- 3. Competitive strategy Michael Porter
- 4. Strategic Management N Chandrasekaran & P.S Ananthanarayanan Oxford Publications
- 5. Understanding Strategic Management Anthony Henry Oxford Publications
- 6. Concepts in Strategic Management & Business Policy Toward Global Sustainability
- Thomas LWheelen, J David Hunger Pearson Publications

# MHA 304 T: MATERIAL MANAGEMENT & MEDICAL TECHNOLOGY MANAGEMENT

#### **Total Hours:60**

	Total Hours.ov
Course objective	<ul> <li>The course is design to impart knowledge of the hospital material management to the students.</li> <li>The hospital as an industry comprised of many small and large organizations. The organizations are maintaining many inventories, which are used for saving lives of patients. In this course students will learn about the need, plan and implementation of the hospital inventories.</li> <li>Course deals with the subjects related to planning, organizing, leading and controlling the material management and maintaining Relationship with stakeholders etc.</li> <li>The course is design to impart knowledge of the medical technology management to the students.</li> <li>The students would learn about those equipments and instruments. These instruments and equipments are integral part of treatment of patients. The students will be informed about management of medical equipments in hospital.</li> <li>Course deals with the subjects related to planning, organizing, leading and controlling the</li> </ul>
	medical technology.
Course outcomes	<ul> <li>The students after completing this course would be able to understand about hospital material management.</li> <li>Students would be able to understand about necessary inventories and its management in-house and outside by maintaining a better relationship with all stakeholders.</li> <li>These future health care administrators feel empowered for creating better value proposition for the hospital through the better control of its inventory planning.</li> <li>The students can take up responsibilities of managing hospital material planning in any hospital.</li> </ul>
	<ul> <li>The students after completing this course would be able to understand about medical technology management.</li> <li>Students would be able to maintain effective operations in hospital by equipments and instruments.</li> <li>These future health care administrators feel empowered by creating better maintenance of equipment and instruments for the hospital.</li> <li>The students can take up responsibilities of managing hospital medical technology management in any hospital.</li> </ul>

#### **MATERIAL MANAGEMENT**

Unit I: Introduction of Material Management- Definition, Scope & Functions, Objectives, principles

**Unit II: Materials Planning-** Classification of Materials-Consumable, Non consumable; Working outquantities required, forecasting; budgeting, concept of Just in time and Central purchasing.

**Unit III: Purchase Management**-Objectives, Purchase system-Centralised, Decentralised, Local purchase; Legal aspects of purchasing; Out Sourcing of Services; Purchase Procedures-Selection of Suppliers, Tendering procedures, Analysing bids, Price negotiations, Issue of purchase orders, Rate Contracts, Follow up action, Import formalities relating to Medical Equipments, Letter of credit, service contracts, Foreign currency payments.-Import documentation

Unit IV: Receipt of Materials-Inspection of materials, Preparation of defect/Discrepancy

Report, Disposal of rejected items, Stocking of accepted items, Accounting of materials

**Unit V: Store Management**-Organisation & layout, Functions of Store Manager, Materials handling, Flow of goods/FIFO, Computerisation of inventory transactions, Security of stores, Disposal of scrap/unserviceable materials, Sub-stores in various departments, Physical stock taking, Codification and Classification of materials

**Unit VI- Inventory Control**-Aims & objectives, Scope of Inventory Control, Lead-time, Buffer stock, Reorder level, Economic order quantity, safety stock, Two Bin System; Tools & Techniques of Inventory Control-Classification of Inventory, Techniques of Inventory Control-ABC, VED, Others.

**Unit VII: Medical Stores**-Functions, Storage condition/Monitoring, Expiry Dates & Action, Cold Chain, Role of drug Review Committee-Hospital formulary, Obsolescence

#### **Reference:**

- 1.BM Sakharkar, Principles of Hospital Administration and planning Jaypee brothers Publications.
- 2. Francis CM, Mario C de Souza ; *Hospital Administration* Jaypee brothers Medical Publishers (P) Ltd., New Delhi, 2000
- 3. Modgli GD: *Medical Records, Organization and Management*, Jaypeebrothers Medical Publishers (P) Ltd., New Delhi, 2001
- 4. Sakharkar BM: *Principles of Hospital Administration and planning*, JaypeeBrothers Medical Publishers (P) Ltd., New Delhi,1999
- 5. McGibony JR: *Principles of Hospital Administration*, GP Putnam's sons 'NewYork, 1969
- 6. Rowland H.S.Rowland BL: *Hospital Administration Handbook*, Aspen System Corporation: Rockville,1984
- 7. Grants Method of Anatomy: A Clinical Problem solving approach John V.Basmajian and Charles E. Slonecker,

#### MEDICAL TECHNOLOGY MANAGEMENT

#### Unit I: Planning and forecasting the need of medical technologies in hospital-

Justification of purchase proposal, Hospital Need Assessment, Estimation of Breakeven point and Profit – Projection inhospital budget, Local, National and International availability of Medical Equipments

**Unit II: Procurement of equipment-** Equipment selection guideline, Estimation of cost and Q.C.Planning, Purchase / Installation / Commissioning of Medical Equipments

**Unit III: Equipment maintenance & condemnation-** History sheet of equipment, preventivemaintenance, master maintenance plan, repair of equipment, Inventory management, Quality management of medical technology, Replacement of old equipments and Buyback Policy, Condemnation & disposal, Procedure for condemnation

**Unit IV: Issues and challenges-** Role of Biomedical Engineering Department, Risk Management, Disaster Management, financial issues,

**Unit V: Common Medical Equipments used in Hospital-** Critical care equipment, OT equipment, Laboratory equipment, Diagnostic equipment, New inventions

#### Reference:

1. Hospital Planning, WHO, Geneva, 1984.

- 2. Kunders G.D., Gopinath S., and Katakam A. Hospital Planning, Design and Management, TataMcGraw Hill, New Delhi, 1999
- 3. Arun Kumar, (ed) Encyclopedia of Hospital Administration and Development, Anmol publications, New Delhi, 2000.
- 4. Srinivasan, A.V. (ed), Managing a Modern Hospital, Chapter 2, Response Books, New Delhi, 2000.
- 5. Padmanand V. and P.C. Jain, Doing Business in India, Response Books, New Delhi, 2000.

MHA	SEMESTER III
MHA 305 CP	Practice of Hospital Administration (Project)
(360 Hrs. Credits – 08)	

#### **Clinical Posting (Project)**

#### UNDER the Supervision of Faculty at the Posting

A Project report is to be submitted and presented for assessment that includes the candidate's role and support in assessing, monitoring, or studying of problems or services in the hospital; developing / implementing policies and intervention strategies to meet the needs. Overall it should contribute to the organization activity and should help in understanding hospital management and coordination and gaining personal confidence and leadership experience.

# **Semester IV**

### **GENERAL ELECTIVES**

# ACADEMIC SYLLABUS FOR SEMESTER - IV ELECTIVE COURSE

Name of the Programme	Master in Hospital Administration
Course Code	GE 001 T
Name of the Course	PURSUIT OF INNER SELF EXCELLENCE (POISE)

	1. To inculcate moral values in students – Self-Discipline, Time Management, attitude of Service with humility, Empathy, Compassion, brotherhood, Resp teachers, colleagues & society members.	
	2. Develop Effective means of communication & presentation skills in students	s
Course objective	3. To develop wisdom in students for deciding their career based on their areas and inner skills.	of interest
	4. Introduce techniques for Relaxation, Meditation & Connecting with innersel	lf.
	5. Rejuvenation Techniques which can be used by students to distress themselven	ves
	6. To improve performance of students during various assignments, projects, e events, quiz, interviews.	locutions,
	1. Students will become self dependent, more decisive and develop intuitive at their study and career related matter.	oility for
	2. Students ability to present their ideas will be developed.	
	3. Enhanced communication skills, public speaking & improved Presentation a	ibility.
Course outcomes	4. Students will be able to explore their inner potential and inner ability to become successful researcher or technician & hence become more focused.	ome a
	5. Students will observe significant reduction in stress level.	
	6. With the development of personal attributes like Empathy, Compassion, Ser &brotherhood, students will serve the society and industry in better way witeamwork and thus grow professionally.	

Unit no.	Topics	Hours allotted 60hrs
	Spiritual Values for human excellence: The value of human integration; Compassion,	15 hrs
1	universal love and brotherhood (Universal Prayer); Heart based living; Silence and its	
	values, Peace and non-violence in thought, word and deed; Ancient treasure of values -	
	Shatsampatti, Patanjali's Ashtanga Yoga, Vedic education - The role of the Acharya, values	
	drawn from various cultures and religious practices - Ubuntu, Buddism, etc.; Why spirituality?	
	Concept – significance; Thought culture	

2	Ways and Means: Correlation between the values and the subjects; Different teaching techniques to impart value education; Introduction to Brighter Minds initiative; Principles of	15 hrs
	Communication; Inspiration from the lives of Masters for spiritual values - Role of the living	
	Master	
3	Integrating spiritual values and life: Relevance of VBSE (Value Based Spiritual Education) in contemporary life; Significant spiritual values; Spiritual destiny; Principles of Self-	15 hrs
	management; Designing destiny	
4	<b>Experiencing through the heart for self-transformation (Heartfulness Meditation):</b> Who am I?; Introduction to Relaxation; Why, what and how HFN Meditation?; Journal writing for Self-Observation; Why, what and how HFN Rejuvenation (Cleaning)?; Why, what and how HFN connect to Self (Prayer)?; Pursuit of inner self excellence; Collective Consciousness-concept of <i>egregore effect</i> ;	15 hrs

- 1. <u>www.pdfdrive.net</u>
- 2. www.khanacademy.org
- 3. www.acadeicearths.org
- 4. www.edx.org
- 5. <u>www.open2study.com</u>
- 6. www.academicjournals.org

Name of the Programme	Master in Hospital Administration
Course Code	GE 002 T
Name of the Course	BIOETHICS, BIOSAFETY, IPR & TECHNOLOGY TRANSFER

	<u>,                                      </u>
	The students will gain structural knowledge on:  1. To list the routes of exposure for a pathogen to a human being.
	2. To demonstrate and assess the proper use of PPE, best practices, biological containment, and be prepared to safely conduct research
Course objective	3. To identify the role of the Biosafety Professional inBiomedical Research Laboratories
Course objective	To appreciate the importance of assertion in interpersonal communication and beintroduced to some key assertion strategies
	<ol> <li>To understand the interpersonal nature of giving feedback, receiving criticism and resolving conflicts.</li> </ol>
	6. To establish attentive listening as an assertion strategy
	Students will learn to:
	1. Effectively manage the health and safety aspects of a biological laboratory.
	<ol> <li>Give reliable, professional and informed advice and information to colleagues and managers.</li> </ol>
	3. Help to ensure that their institution complies with relevant legislation, liaise effectively with enforcing authorities and be aware of the penalties for failing to comply.
Course outcomes	4. Build a context of understanding through communication.
	5. Mediate between other conflicting parties.
	6. Exhibit de-escalatory behaviors in situations of conflict.
	7. Demonstrate acknowledgment and validation of the feelings, opinions, and contributions of others.

Unit no.	Topics	Hours allotted 60hrs
1	<b>Ethics</b> : Benefits of biotechnology, ELSI of Bioscience, recombinant therapeutic products for human health care, genetic modifications and food consumption, release of genetically engineered organisms,	15 hrs
	applications of human genetic rDNA research, human embryonic stem cell research.	
2	<b>Patenting:</b> Patent and Trademark, Bioscience products and processes, Intellectual property rights, Plant breeders rights, trademarks, industrial designs, copyright biotechnology in developing countries.	15 hrs
	Biosafty and its implementation, Quality <i>control in Biotechnology</i> .	

	Introduction to quality assurance, accreditation & SOP writing: Concept of ISO standards and certification, National regulatory body for accreditation, Quality parameters, GMP & GLP, Standard operating procedures, Application of QA in field of genetics, Data management of clonical and testing laboratory	15 hrs
3	<b>Funding of biotech business</b> (Financing alternatives, VC funding, funding for Bioscience in India, Existrategy, licensing strategies, valuation), support mechanisms for entrepreneurship (Bioentrepreneurship efforts in India, difficulties in India experienced, organizations supporting biotech growth, areas of scope, funding agencies in India, biotech policy initiatives), Role of knowledge centers and R&D (knowledge centers like universities and research institutions, role of technology and up gradation)	15 hrs

- 1. <u>www.pdfdrive.net</u>
- 2. <u>www.khanacademy.org</u>
- 3. www.acadeicearths.org
- 4. <u>www.edx.org</u>
- 5. <u>www.open2study.com</u>
- 6. www.academicjournals.org

Name of the Programme	Master in Hospital Administration
Course Code	GE 003 T
Name of the Course	DISASTER MANAGEMENT AND MITIGATION RESOURCES

	The course will uplift about:  1. Understand and appreciate the specific contributions of the Red Cross/Red Crescent movement to the practice and conceptual understanding of disaster management and humanitarian response and their significance in the current context.  2. Recognize issues, debates and challenges arising from the nexus between paradigm of
Course objective	<ol> <li>development and disasters.</li> <li>Critically evaluate disaster risk reduction and humanitarian response policy and practice from multiple perspectives.</li> <li>Respond to disaster risk reduction initiatives and disasters in an effective, humane and sustainable manner.</li> </ol>
	At the successful completion of course the student will gain:  1. knowledge and understanding of the disaster phenomenon, its different contextual aspects, impacts and public health consequences.
Course outcomes	<ul> <li>impacts and public health consequences.</li> <li>2. Knowledge and understanding of the International Strategy for Disaster Reduction (UN-ISDR) and to increase skills and abilities for implementing the Disaster Risk Reduction (DRR) Strategy.</li> </ul>
	3. Ensure skills and abilities to analyse potential effects of disasters and of the strategies and methods to deliver public health response to avert these effects.

**UNIT I: Introduction-** Definition of Disaster, Emergency; Type of Disasters, Disaster Codes, Incident Management Team (IMT), Community partners, Hazard Vulnerability Assessment – mitigation, Preparedness, response, recovery;

**UNIT II: Communication-** Notification of Disaster situation, Disaster/emergency announcement, Internal and External Information

**UNITIII:** Emergency Patient Management-Triage, First aid center, Assessment and transportation of injured persons, Categorization of casualties, Disaster Tags, Evacuation, Hospital preparedness for mass admissions of patients,

**UNIT IV: Disaster plan of a hospital-** Basic Requirements, Components of disaster plan: pre-hospital and hospital; Organization and Structure of Management in the Hospital, Alarm and Mobilization, Competencies and Emergency Rights, Admission and Treatment Capacities, Admission and Registration of Patients, Predefined Patient Transportation Routes, internal disaster plan-evacuation of hospital

**UNITV: Staff Responsibilities-** General, Incident commander, hospital administrator, Clinicians, Chief Nursing Officer, Chief of Security, Facility Manager, Food Service Manager, Pharmacy Incharge, Front Desk Staff, Information, Training, Exercise- Mock exercise on disaster management in Hospital

- 1. ShailendraK.Singh: Safety & Risk Management, Mittal Publishers
- 2. J.H.Diwan: Safety, Security & Risk Management, APH
- 3. Stephen Ayers & Garmvik: Text Book of Critical Care, Holbook and Shoemaker
- 4. <u>www.pdfdrive.net</u>
- 5. www.khanacademy.org
- 6. www.acadeicearths.org
- 7. <u>www.edx.org</u>
- 8. www.open2study.com
- 9. www.academicjournals.org

Name of the Programme	Master in Hospital Administration
Course Code	GE 004 T
Name of the Course	HUMAN RIGHTS

	Students will comprehend on:
	<ol> <li>A branch of public international law, and relevant juridical mechanisms at global as well as regional levels,</li> </ol>
	2. Human rights as an object of study in history, philosophy and the social sciences, as well as a practical reality in national and international politics.
Course objective	3. Different forms of promoting and implementing human rights, domestically as well as on the international level.
	4. The role of human rights in contemporary issues relating to terrorism, religion, ethnicity, gender and development.
	<ol> <li>Cholarly values such as transparency, impartiality, clarity, reliance and the importance of sound reasoning and empirical inference.</li> </ol>
Student will be able to virtue:	
	identify, contextualise and use information about the human rights situation in a given country
	2. critically appraise source material, including cases from human rights committees and tribunals and reports and summary records from treaty bodies
Course outcomes	3. analyse a country's situation or an international situation in terms of human rights and formulate human rights-based initiatives and policies
	4. Promote human rights through legal as well as non-legal means.
	<ol> <li>Participate in legal, political and other debates involving human rights in a knowledgeable and constructive way</li> </ol>

Unit no.	Topics	Hours allotted 60hrs
1	Background: Introduction, Meaning, Nature and Scope, Development of Human Rights, Theories of Rights, Types of Rights	08 hrs
2	Human rights at various level: Human Rights at Global Level UNO, Human Rights – UDHR 1948 – UN Conventions on Human Rights: International Covenant on civil and Political Rights 1966, International Convent on Economic, Social and Cultural Right, Racial Discrimination -1966 International, Instruments: U.N. Commission for Human Rights, European Convention on Human Rights.	15 hrs
3	Human rights in India: Development of Human Rights in India, Human Rights and the Constitution of India, Protection of Human Rights Act 1993- National Human Rights Commission, State Human Rights Commission, Composition Powers and Functions, National Commission for Minorities, SC/ST and Woman	12 hrs
4	Human Rights Violations: Human Rights Violations against Women, Human Rights Violations against Children, 35 Human Rights Violations against Minorities SC/ST and Trans-genders, Preventive Measures.	13 hrs
5	Political issues: Political Economic and Health Issues, Poverty, Unemployment, Corruption and Human Rights, Terrorism and Human Rights, Environment and Human Rights, Health and Human Rights	12 hrs

- JagannathMohanty Teaching of Human sRights New Trends and Innovations Deep & Deep Publications Pvt. Ltd. New Delhi2009
- 2. Ram Ahuja: Violence Against Women Rawat Publications JewaharNager Jaipur.1998.
- 3. SivagamiParmasivam Human Rights Salem 2008
- 4. Hingorani R.C.: Human Rights in India: Oxford and IBA New Delhi.

#### MPH 401 P: DISSERTATION 540 hrs

The students are placed for 12 weeks in various hospitals and healthcare organizations throughout the country or abroad for hands-on training. The students will be required to complete a satisfactory thesis based on the project assigned to them. The thesis must be approved by Industry and faculty members. Students have to maintain the logbook throughout and submit at the time of reporting back to the college post dissertation. During Dissertation, there would be two presentations in the respective organization where student is posted in presence of faculty incharge from the college and the organizational mentor. The university exam would be as per therules.

In case, if student fails to qualify the same, he/she has to appear for the university examination during the next semester examination.

#### Resolution No. 6.5 of Academic Council (AC-48/2023):

ii) Resolved to grant Post-facto changes for the batch admitted in the Academic Year 2022-23 onwards. Submission of check list for Master in Hospital Administration (MHA) programs for Academic Year 2022-23 onwards.

Checklist format for MHA-1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> Semester

- 1. MHA 105 CP Practice of Hospital Administration–Basic [Annexure-48C].
- 2. MHA 204 CP Practice of Hospital Administration—Advance [Annexure-48D].
- 3. MHA 305 P Practice of Hospital Administration Project) [Annexure-48E].

**Annexure-48C of AC-48/2023** 

#### **Checklist for Evaluation of Practice of Hospital Administration- Basic (MHA 105 CP)**

#### **UNIVERISTY EXAM**

Name of the student:		Date :	
Program:			
Semester:Name of the Internal Faculty/Observer:			
		Marks	Marks
Co	re Competencies	allotted	obtained
	rship roles in the hospital sector through impartin		
various departmental postings inclu-	ading orientation in the managerial aspects of clin	nical and support se	rvices.
Students will develop critical think toanalyzetheprogram/activity	ing and skills of professional hospital administra	tor by taking initiati	ve
Hospital Teaching			
a. Demonstrate competence	ey in technical skills.	10	
Independent Work by Studen	•		1
		2.5	
with patients, team men		2.5	
	ofessional team member roles	2.5	
teammembers.	blishappropriaterelationshipswith		
Hands on practical work in he	ospital by students		
a. Protect confidentiality of	electronic/manual hospital records data,	2.5	
	edge of technology in an ethical manner		
b. Managerial aspects through various departmental postings 05		05	
Independent work by student	i .	1	1
	ehaviors and complete tasks in a timely	2.5	
	tal at assigned times. Maintain		
Professional behavior as	nd appearance		
b. Logbook		05	
ProjectReport			
a. Presentation		10	
b. Viva		05	
Attendance		05	
Total		50 marks	
Sign of Internal Examiner:			
Sign of External Examiner:			
orgin of External Examiner			

## Checklist for Evaluation of Practice of Hospital Administration – Advanced (MHA 204 CP)

### **UNIVERISTY EXAM**

Name of the student:	:Date: _		_
Program:			
Semester:	Name of the Internal faculty/Observer:		
Core Competencies		Marks allotted	Marks obtained
Students will be prepared for	or leadership roles in the hospital sector through imparting mu	ıltidimensional kno	wledge of the
	lop critical thinking and skills of professional hospital admini		
	of formulating policies, planning operational action plans, man	naging / supervising	g various
departmental activities and a	audit process.		
Hospital Teaching			
a. Demonstrate con	npetency in technical skills.	5	
Independent Work by	Student guided by faculty		
-	ommunication skills (verbally and through charting) with embers, and family	2.5	
	inter-professional team member roles and scopes of appropriate relationships with team members.	2.5	
Hands on practical wor	rk in hospital by students		
	ality of electronic/manual hospital records data, knowledge of technology in an ethical manner	2.5	
	ng through various departmental postings	05	
c. Various audit pr	ocess undertaken in departmental postings	05	
Independent work by s	tudent		
Arrive at hospital	pected behaviors and complete tasks in a timely manner.  I at assigned times. Maintain avior and appearance	2.5	
b. Projects / semina	ars / conferences / courses completed	05	
c. Logbook		05	
Project Report			
a. Presentation		05	
b. Viva		05	
Attendance		05	
Tota	l	50 marks	
Sign of Internal Examiner:_			
Sign of External Examiner	r:		

## **Checklist for Evaluation of Practice of Hospital Administration – Project (MHA 305 P)**

### UNIVERISTY EXAM

Name of the student: Date	e:	_
Program:		
Semester: Name of the Internal faculty/Observer:		
Core Competencies	Marks allotted	Marks obtained
Students will be prepared for leadership roles in the hospital sector through imparting hospital. Students will develop critical thinking and skills of professional hospital adm they can work in the areas of formulating policies, planning operational action plans, a departmental activities and audit process.	ninistrator, its operation	n, facilities so that
Hospital Teaching		
a. Demonstrate competency in technical skills.	5	
Independent Work by Student guided by faculty		
a. Develop effective communication skills (verbally and through charting) with patie team members, and family	nts, 2.5	
b. Identify intra and inter-professional team member roles and scopes of practice. Establish appropriate relationships with team members.	2.5	
Hands on practical work in hospital by students		
a. Protect confidentiality of electronic/manual hospital records data, information, a knowledge of technology in an ethical manner	and 05	
b. Self-directed learning and managerial aspects through various departmental posting	igs 05	
a. Various audit process undertaken in departmental postings	05	
Independent work by student		
Demonstrate expected behaviors and complete tasks in a timely manner. Arrive at hospital at assigned times. Maintain professional behavior and appearance	05	
a. Projects / seminars / conferences / courses completed	10	
b. Logbook	10	
Hospital Project	·	
a. Presentation	30	
b. Viva	10	
Attendance	10	
Total	100 marks	
Sign of Internal Examiner:		
Sign of External Examiner:		
L		

# REVISED SCHEME OF UNIVERISTY EXAMINATION FOR PG PROGRAM (w.e.f. AY 2022-23) MASTER of PUBLIC HEALTH (MPH)

#### **SEMESTER III & IV**

General structure / patterns for setting up question papers for Theory / Practical courses, their evaluationweightage for PG Programs (MPH & MHA) are given in following tables Marks Scheme for the University Examination

Final Theory Mark will be 100 Marks (80 Marks University Theory Exam + 20 Marks Internal Assessment)

Theory Paper Pattern: Marks: 80 Time: 3 Hrs.

Question Paper	Question	Question Type	Marks Distribution	Marks Per Section
	No.			
Section A	1	LAQ (1 out of 2)	1 X 10 Marks = 10	40
	2	SAQ ( 5 out of 6)	5 X 06 Marks = 30	40
Section B	3	LAQ (1 out of 2)	1 X 10 Marks = 10	40
	4	SAQ ( 5 out of 6)	5 X 06 Marks = 30	40
			TOTAL	80 Marks

Note: If the paper is combination of two sub-subjects, the each section is to be dedicated for separate sub-subject for 50% weightage each.

#### Practical Examination, if applicable, will be as per last approved pattern

#### **Internal Assessment Pattern - Theory**

Marks - 20

Internal Theory Examination	30 Marks / 2 = 15 Marks
Seminar / Assignment	10  Marks / 2 = 05  Marks
Total	20 Marks



#### MGM INSTITUTE OF HEALTH SCIENCES

(Deemed to be University u/s 3 of UGC Act, 1956) Grade 'A++' Accredited by NAAC Sector-01, Kamothe, Navi Mumbai - 410209 Tel 022-27432471, 022-27432994, Fax 022-27431094

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