

**THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY, CHENNAI -600 032**  
**REGULATIONS OF THE UNIVERSITY (Post-graduate**  
**Degree course under Allied Health Science) MBA**  
**(HOSPITAL & HEALTH SYSTEMS MANAGEMENT)**

In exercise of the powers conferred by Section 44 of the Tamil Nadu Dr. M.G.R. Medical University, Chennai Act 1987 (Tamil Nadu Act 37 of 1987) the Standing Academic Board of the Tamil Nadu Dr. M.G.R. Medical University, Chennai hereby makes the following regulations:-

**SHORT TITLE AND COMMENCEMENT:-**

These regulations shall be called as “**M.B.A. HOSPITAL & HEALTH SYSTEMS MANAGEMENT**” of the Tamil Nadu Dr. MGR Medical University, Chennai.

They shall come into force from the academic year 2010-2011

The regulations framed are subjected to modification from time to time by the Standing Academic Board.

**OVER ALL OBJECTIVES**

The **MBA HOSPITAL & HEALTH SYSTEMS MANAGEMENT DEGREE COURSES UNDER ALLIED HEALTH SCIENCES** is prepared to assist Medical and Allied Health Professionals to understand the principles of management and apply, when providing Quality Patient Care in selected areas of Clinical Specialty in the Hospital and Community.

**1. ELIGIBILITY FOR ADMISSION**

Candidates belonging to all categories for admission to the **MBA HOSPITAL & HEALTH SYSTEMS MANAGEMENT DEGREE COURSES UNDER ALLIED HEALTH SCIENCES** should have passed Degree in any one of the courses – viz.:

- (a) **Medical** - MBBS
- (b) **Dental** - BDS
- (c) **Indian Medicine** - BAMS, BHMS, BSMS, BNYS, BUMS
- (d) **Allied Health Sciences**- B.Sc.(N),B.Pharm.,B.Sc.(MLT),BPT & BOT  
B.Sc. (Medical Sociology), B.Sc., Microbiology  
and any other life Sciences.

## **2. ELIGIBILITY CERTIFICATE :**

Candidates who have passed any qualifying examination as stated in Regulation No.4 above other than the Tamil Nadu Dr. M.G.R. Medical University shall obtain an “Eligibility Certificate” from this University by remitting the prescribed fees along with the application form and required documents before seeking admission to any one of the affiliated medical institutions. The application form is available in the University website :[www.tnmmu.ac.in](http://www.tnmmu.ac.in).

\*\*\*Resolved in 44<sup>th</sup> SAB held on 15.06.2012

## **3.REGISTRATION:**

A Candidate admitted to **MBA HOSPITAL & HEALTH SYSTEMS MANAGEMENT DEGREE COURSES UNDER ALLIED HEALTH SCIENCES** in any one of the affiliated institutions of this University shall register his / her name with this university by submitting the prescribed application form for registration duly filled, along with the prescribed fee and a declaration in the format to the Academic Officer of this University through the affiliated institution within 30 days from the cut-off date prescribed for the course for admission. The applications should have date of admission of the course.

## **4. MIGRATION/TRANSFER OF CANDIDATE:**

(a) A student studying in **MBA HOSPITAL & HEALTH SYSTEMS MANAGEMENT DEGREE COURSES UNDER ALLIED HEALTH SCIENCES** can be allowed to migrate/transfer to another institution of Allied Health Science under the same or another University.

(b) Under extraordinary circumstances, the Vice Chancellor shall have the powers to place any migration/transfer he/she deems fit before the Governing Council and get its approval for grant of permission/ratification for Migration/Transfer to the candidates undergoing the course of study in affiliated institutions of this University.

## **5. COMMENCEMENT OF THE COURSE:**

The course shall commence from 2<sup>nd</sup> May/1<sup>st</sup> October of the academic year.

**6. MEDIUM OF INSTRUCTION:**

English shall be the Medium of Instruction for all the Subjects of study and for examinations of the **MBA HOSPITAL & HEALTH SYSTEMS MANAGEMENT DEGREE COURSES UNDER ALLIED HEALTH SCIENCES.**

**7. CURRICULUM:**

The Curriculum and the syllabus for the course shall be as prescribed in these regulations and are subject to modifications by the Standing Academic Board from time to time.

**8. DURATION OF THE COURSE:**

The duration of certified study for the **MBA HOSPITAL & HEALTH SYSTEMS MANAGEMENT DEGREE COURSES UNDER ALLIED HEALTH SCIENCES** shall extend over a period of two academic years.

The candidate should complete this course in 4 years (double the duration) from the date of joining the course.

**9. RE- ADMISSION AFTER BREAK OF STUDY:**

The regulations for re -admission are as per the University Common Regulation for Re-admission after break of study for all courses.

**10. WORKING DAYS IN THE ACADEMIC YEAR:**

Each academic year shall consist of not less than 270 working days

<b>Total No. of days in a year</b>		<b>365 days</b>
No. of weekly off (Sundays)	- 52 days	
No. of Government Holidays	- 22 days	
No. of Holidays	- 21 days	
	-----	95 days
		-----
Total No. of working days including Examination period		270 days
		-----

**11. ATTENDANCE REQUIRED FOR ADMISSION TO EXAMINATION:**

(a) No candidate shall be permitted to appear in any one of the parts of **MBA HOSPITAL & HEALTH SYSTEMS MANAGEMENT DEGREE COURSES UNDER ALLIED HEALTH SCIENCES** Examinations unless he/she has attended the course in the subject for the prescribed period in an affiliated institution recognized by this University and produce the necessary certificate of study, attendance and satisfactory conduct from the Head of the institution.

(b) A candidate is required to put in a minimum of 90% of attendance in both theory and practical separately in each subject before admission to the examinations.

**12. CONDONATION OF LACK OF ATTENDANCE:**

There shall be no condonation of lack of attendance.

**13. VACATION:**

There is no vacation

**14. INTERNAL ASSESSMENT MARKS:**

The Internal Assessment should consist of the following points for evaluation:-

- i) Theory
- ii) Dissertation

(a) A minimum of two written examinations shall be conducted in each subject during a year and the average marks of the three performances shall be taken into consideration for the award of Internal Assessment marks.

**15. CUT-OFF DATES FOR ADMISSION TO EXAMINATIONS:**

- (i) 31<sup>st</sup> May/31<sup>st</sup> October of the academic year concerned
- (ii) The candidates admitted up to 31<sup>st</sup> May/31<sup>st</sup> October of the academic year shall be registered to take up the 1<sup>st</sup> year examination during April of the next year.
- (iii) All kinds of admission shall be completed on or before 31<sup>st</sup> May/31<sup>st</sup> October of the academic year. There shall not be any admission after 31<sup>st</sup> May/31<sup>st</sup> October even if seats are vacant.

**16. COMMENCEMENT OF THE EXAMINATIONS:**

15th April/15<sup>th</sup> October

If the date of commencement of examination falls on Saturdays / Sundays or declared Public Holidays, the examination shall begin on the next working day. The University paper will be awarded for 100 marks and Internal 50 marks.

**17. MARKS QUALIFYING FOR PASS:**

50% of marks in the University Theory Examinations

50% of marks in the subject where internal evaluation alone is conducted

50% of marks in aggregate in Theory, I.A. & Oral taken together

**18. CLASSIFICATION OF SUCCESSFUL CANDIDATE**

A successful candidate:

(i) Who secures not less than 75% in any subjects gets distinction in that particular subject provided she/he passes the whole examinations in the first attempt.

(ii) Who passes the examinations in all subjects at the first appearance obtaining not less than 60% of the aggregate marks shall be declared to have passed the examinations in the first class.

(iii) All the other successful candidate shall be declared to have passed the examination in the second class.

(iv) A candidate passing a University examination in more than one attempt will be given "Pass Class" irrespective of percentage of marks secured by the candidate in the examinations.

**19. CARRY OVER OF FAILED SUBJECTS:**

1. A candidate has to pass in theory examination in each of the paper
2. If a candidate fails in theory examinations, he/she has to reappear.
3. Only three attempts are allowed in each subject including 1<sup>st</sup> attempt
4. The candidate has to successfully the course in double the duration of the course (i.e. 4 years from the date of joining)

**20. REVALUATION/RETOTALLING OF ANSWER PAPERS:**

Revaluation of answer papers is not permitted. Only retotalling of theory answer papers is allowed, in the failed subjects.

## **21. SCHEME OF EXAMINATIONS**

### **MBA Hospital & Health System Management - First year Written Examination**

Sl. No.	Subject Title	I A		Theory		Practical		Viva voce	
		Max	Min	Max	Min	Max	Min	Max	Min
1.	Management Principles in Medical and Health care Organizations	50	25	100	50	-	-	-	-
2.	Financial and Management Accounting	50	25	100	50	-	-	-	-
3.	Bio- Statistics and Operations research	50	25	100	50	-	-	-	-
4.	Basic of Medical Science and Epidemiology in Medical and Health System Management	50	25	100	50	-	-	-	-
5.	Health Economics	50	25	100	50	-	-	-	-
6.	Organizational Behaviour	50	25	100	50	-	-	-	-
7.	Business Communication and Computer Applications	50	25	100	50	-	-	-	-
8.	Hospital Planning , Architecture and Project Magt.	50	25	100	50	-	-	-	-
9.	Health care Laws	50	25	100	50	-	-	-	-
10.	Marketing Management	50	25	100	50	-	-	-	-
11.	Logistics for Health Care Services	50	25	100	50	-	-	-	-
12.	Human Resources Management	50	25	100	50	-	-	-	-

**SECOND YEAR**

Sl. No.	Subject Title	I A		Theory		Practical		Viva	
		Max	Min	Max	Min	Max	Min	Max	Min
1.	Public Health system And Health Insurance	50	25	100	50	-	-	-	-
2.	Research Methodology	50	25	100	50	-	-	-	-
3.	Safety and Risk Management	50	25	100	50	-	-	-	-
4.	Business Policy and Strategic Management	50	25	100	50	-	-	-	-
5.	Services Marketing and Consumer Behavior	50	25	100	50	-	-	-	-
6.	Health care Technology and Pharmaceutical Management	50	25	100	50	-	-	-	-
7.	Hospital Information Systems including Medical Records	50	25	100	50	-	-	-	-
8.	International Health Management	50	25	100	50	-	-	-	-
9.	Quality Assurance and Management in Health care	50	25	100	50	-	-	-	-

Evaluation of Dissertation	200
Viva/Presentation	50
IA	50
Total	300
Passing Minimum	150

**In the second year of study the candidates shall submit dissertation apart from nine theory papers.**

*MBA Hospital & Health Systems Management Regulation and Syllabus for the A.Y 2010-2011*



## **22. DISSERTATION:**

- a) All candidates admitted to undergo Post-Graduate Degree in MBA course shall be assigned a topic for dissertation / Thesis by the head of the concerned Unit and the title of the topics assigned to the candidates be intimated to the Controller of Examinations of this University by the Head of the Department through the Head of the Institution before the end of 1<sup>st</sup> year of the course.
- b) The dissertation / thesis shall be a bound volume of a minimum of 50 pages and not exceeding 75 pages of typed matter (Double line spacing and on one side only) excluding certification, acknowledgements, annexure and Bibliography.
- c) 4 copies of dissertation shall be submitted six (6) months prior to the commencement of the theory examinations on the prescribed date to the Controller of Examinations of this University.
- d) Two copies are to be submitted as an electronic version of the entire dissertation in a standard C.D. format by mentioning the details and technicalities used in the C.D. format.
- d) The concerned Professors/Readers are to supervise and to see that the dissertations are done properly by utilizing the clinical materials of their own department/institution. The students must learn the design and interpretation of research studies, responsible use of informed consent and research methodology and interpretation of data and statistical analysis. They should seek the help of qualified staff members in the conduct of research. If necessary, they can utilize the facilities in other Institutions. They must learn to use the library and computer based search. This training will help them to develop skills in planning, designing and conduct of research studies.
- e) For Dissertation Marks 200, Viva-voce on Dissertation/Presentation Marks 50 and IA 50 – Minimum mark to pass 150.

**ANNEXURE – I**

**REGULATION (10)**

**DECLARATION**

I..... Son of /  
 Daughter of  
 .....  
 ..... residing at  
 ..... and admitted to  
 First year of ..... (Name of the course/ U.G./P.G.) at  
 ..... (Name of the  
 College) do hereby solemnly affirm and sincerely state as follows :

I declare that I shall abide by the rules and regulations prescribed by the Tamil  
 Nadu Dr. M. G. R. Medical University, Chennai for the  
 .....  
 ..... (course) including the regulations for re-admission after the break of  
 study. Date: Signature of the candidate.

/ Countersigned /

(Office date seal)

**Dean / Principal / Director.**

## **1. MANAGEMENT PRINCIPLES IN MEDICAL & HEALTH CARE ORGANIZATIONS**

### **OBJECTIVE:**

1. To introduce the management concepts and principles as an induction to the management course.
2. To apply the principles in the hospital administration
3. To improve the communication, decision - making planning organizing staffing leading and controlling the process of the management.

### **UNIT - I**

#### **INTRODUCTION TO MANAGEMENT FUNCTIONS**

Introduction to management - An art or science - History of management - The systems approach - Management for the nineties' integration of clinical practice and management skills - Functions of the manager - operations in a pluralistic Society - the Social Responsibility of Managers - Ethics in Managing.

### **UNIT - II**

#### **PLANNING**

Introduction to planning - Characteristics of Planning - Participants in planning - Planning constraints or boundaries - Characteristics of effective plans - Philosophy or underlying purpose - Functional objectives - Policies and procedures - methods and rules - Space and renovation planning - Management By Objectives (MBO) & Strategic Planning (SP) - Introduction to MBO & SO concepts - MBO - Historical development & advantages of MBO – Relationship to participative Management & underlying motivational assumptions – Participants in MBO & MBO cycle – strategic planning.

### **UNIT – III DECISION**

#### **MAKING**

Introduction to decision making – participants in decision making – Evaluating a decision's importance – Steps in decision making – Barriers to rational choice – Bases for decision making – Decision making tools & techniques – Health care practitioners as decision makers – Case studies & clinical reason capability analysis tools – control charts – models – clinical reasoning.

## UNITS – IV

### ORGANIZING

Introduction to organizing concepts – the process of organizing – fundamental principles and span of management – Line & staff relationships – the dual pyramid form of organization in health care – Basic department & flexibility in organizational structure – the organizational chart – job description and consultants – Concept of Re – engineering – the Organization as a total system – Introduction to concepts – formal V/s informal organization - classification of health care organization – classic bureaucracy – Consequences of organizational form – the Nature and purpose of Strategic and Policies – the strategic planning process – the TOWS Matrix. A Modern Tool for Analysis of the situation - (I) the portfolio matrix: A Tool for Allocating Resources – Major kinds of Strategies and Policies – three Generic Competitive Strategies by Porter – Effective Implementation of Strategies – Premising and Forecasting.

## UNIT – V

### STAFFING

Definition of Staffing - Defining the Managerial Job - The Systems Approach to Human Resource Management - Situational factors affecting staffing - Selection: Matching the person with the job - system Approach to Selection - Position requirement and Job Design - skills and Personal Characteristics Needed by Managers - Matching qualification with Position Requirements - Orienting and Socializing New Employees.

## UNIT - VI

### CONTROLLING

The Basic Control Process - Critical Control Points and Standards - Control as a Feedback Systems - Real - Time Information and control - Feed forward Control - Requirements or Effective Control - Control Techniques: The Budget - Traditional Non budgetary control Devices - time Event Network Analysis - Information Technology - The use of Computers in Handling Information - Challenges Created any information Technology.

UNIT - VII

PROCESS CAPABILITY ANALYSIS

Quality Control methods and measurement systems specification limits and control limits - process capability analysis tools - control charts - models .

UNIT - VIII

QUALITY ASSURANCE METHODS PATIENT SATISFACTION

Quality Assurance in Hospitals Sop's - patient orientation for total Patient Satisfaction 55 techniques.

UNIT - IX

QUALITY CERTIFICATION SYSTEMS

International Standards ISO 9000 - 9004 - Features of ISO 9001 - ISO 14000 - environment Management systems.

REFERENCES:

1. Management Principles for Health Professionals 2nd edition (1992) - Joan Grantor Liebley, Ruth Eller Louvine, Jeffrey Rothman, Aspex Publication, Gaithersburg. Maryland
2. Principles of Management - G.Venkatesan (1994) J.J.Publisher, (Madurai).
3. Management in Health Care - A Theoretical and Experiential approach (1997) - Elaine Lynnella Monica and Philip Ian Morgan. Macmillan Publishers.
4. Essentials of Management - Harold Konntz wehrich - Tata cGraw Hil - Fifth Edition.

# **1.ORGANIZATION AND MANAGEMENT OF HOSPITAL & HEALTH CARE**

## **UNITS**

### OBJECTIVE :

1. Understand the structure and functions of different departments of a hospital and health care organization.
2. Developing skills in planning, building and managing hospitals and health care.
3. application of the concepts and techniques of Modern Management in different health care units.

### UNIT – I

#### INTRODUCTION

Concept of Hospitals – Planning and Design of a Hospital (Building & Physical Layout) – space Required for Separate Functions – Different types of Hospitals – Problems and constrains in different type of Hospitals – History of Hospital Development – Departmentation and organization structure of different types of hospitals.

### UNIT – II

#### DEPARTMENTATION IN HOSPITAL

Organization – Structure – Vertical & Horizontal – Clinical & Non – clinical – supportive & Ancillary Service Departments.

### UNIT – III

#### MANAGEMENT AND ORGANIZATION OF CLINICAL SERVICES

Organization and Administration of various clinical services – Outpatient service – Inpatient Services – Emergency Services – Operation Theater – ICUs - super Specialty Service including their utilization study – Nursing Care and Ward Management.

### UNIT – IV

#### PLANNING & ORGANIZATION OF SUPPORT SERVICES

Imaging – CSSD – Laboratory – Blood Bank – diet – Medical Records – Mortuary – Pharmacy – Admission and Discharge Procedure – Billing Procedure – Bio Medical Equipments Planning.

## UNIT – V

**ORGANIZATION AND MANAGEMENT OF UTILITY SERVICES**

Organizing and Managing Facility Support Services – Laundry – Housekeeping – Pest control managing the Estate (Hospital Security) – Recent trends in disaster Management – Hospital Engineering Services (Plumbing, electricity, Civil, A/c, Lifts)- Ambulance Service.

## UNIT – VI

**EVALUATION OF HOSPITAL AND HEALTH SERVICES**

Accreditation – Setting of objective – Health indicators – applying Economic concepts to Service Evaluation – Assessing Patient Satisfaction – Techniques of Hospital Service Evaluation – Indicators of Hospital Efficiency and Effectiveness – Evaluation of Quality of Hospital Services – Management of Hazard and Safety in a Hospital Setup – Nursing Services in a Hospital – current – Issues in Hospital Management – Telemedicine – Bio – Medical Waste Management – Organ Transplantation – Rehabilitation Services – Health Insurance and Managing Health Care – Medical audit – Hazard and Safety in a hospital Setup.

**2. FINANCIAL AND MANAGEMENT ACCOUNTING****OBJECTIVE;**

The purpose of this course is to acquaint the students with the various concepts. Techniques methods, process of accounting data, analysis, interpretation, decision making in the areas of financial and Management Accounting.

**UNITS - I****SCOPE OF FINANCIAL AND MANAGEMENT ACCOUNTING**

Functions - Distinction between management accounting Financial accounting and cost accounting - Tools and Techniques of Management accounting - Accounting concepts and conventions - Installation of management accounting system Accounting system a source of financial information - financial statement Balance sheet - Profits and loss account - Relation between balance sheet and profits and loss account - Study of  
of Balance sheet.

## UNITS - II

### FINANCIAL STATEMENT ANALYSIS

Modes of expression of ratios - Steps in ratio analysis - Advantages and limitations of ratio analysis - Classifications of ratios.

## UNITS - III

### FUNDS FLOW ANALYSIS

Funds flow statement - working capital - Receivables Management - Uses and limitations of funds flow statement - Preparation of funds flow statement - working capital statement.

## CASH FLOW STATEMENT

Difference between funds analysis and cash flow analysis - Advantages and limitations of cash flow statement - preparation of cash flow statement - Computation of cash form operation - computation of funds from operations - External sources of cash - Applications of cash - form of statement of cash from operations - Forms of cash flow statement.

## UNITS - IV

### MARGINAL COSTING

Definition - Advantages and limitation of marginal costing - Marginal costing and absorption costing - cost - volume profits analysis - application of marginal costing - Break even analysis Differential costing - Activity Based costing.

## UNIT - V

### BUDGETING AND BUDGETARY CONTROL

Meaning and definition - Difference between forecast and budget - Objectives of budgetary control - Advantages and limitations of budgetary control - Preparation of budget - classification of budget - control ratios.



## UNIT - VI

### CAPITAL BUDGETING

Definition - Capital expenditure budget - Importance of capital budgeting - types of capital expenditure - Methods of capital budgeting - Capital rationing - time preference for money - Compounds value - Present value - Value of an annuity due - Multi - period compounding - Net present value - present value and rates of return.

#### REFERENCES:

1. John G.Nackel, Cost Management for Hospital.
2. Malcolm R.Hosting cost management Strategies for smaller Hospitals.
3. James C.Van Horne, financial management Police - Prentice Hall of India Ltd.,
4. I.M.Pandey, Financial Management - vikas Publishing Houses Pvt Ltd.,
5. Eugene West, Financial Management.

## **2. FINANCIAL MANAGEMENT FOR HOSPITALS**

#### OBJECTIVE :

1. To familiarize the students with basic concepts of financial management.
2. To apply the financial principles in the area of Hospital administration.
3. To critically evaluate various financial decisions of the hospitals.

#### UNIT - I

Finance functions meaning – Definitions – Scope of finance function – Executive functions and Incidental functions – goals of Financial Management – Profit Maximization and Wealth Maximization.

#### UNIT – II

Sources of short term financing. Management of working capital – meaning of working capital Net Working capital – Financing mix approaches – Sources of working capital financing – Management of cash and marketable security. Importance of cash and liquidity – cash balance deciding factors – Determination of Cash Cycle – Cash – Cash turns over – Cash management strategies – working capital control – banking policy – Receivable management - Inventory management – Intermediate term financing.

### UNIT – III

Sources of long terms financing. Loan term financing – Nature of long term financing – common stock – Preferred stock – Debt financing – Secured and Unsecured debts – Repurchase of shares Under writing of shares – right issue : Meaning – rights issue procedure – Pricing the rights issue – Undertaking of rights – Dilution of market price rights – market price of shares.

### UNIT –IV

Dividend polity decision : Internal financing – Dividend and Retained earning – Relevance and Irrelevance of M.M. Hypothesis – Walters model – cost of retained earnings – dividend practices – Factors affecting dividend polity – dividend payout ratio – stock dividend and stock splits – Issue of bonus and its procedure.

### UNIT – V

International finance – Exchange rate mechanism and derivative products like forward, futures and options – International financial service –Factoring and Fore fainting – Hedging the foreign exchange – Swap - ECB – ADR and GDR.

### UNIT – VI

Finance Decisions : The cost of Capital and Capital Structure – cost of Specific sources of capital – cost of common stock – cost of preferred stock – cost of retained earnings – Measurement of overall cost of capital – Valuation of shares : concept of going concern value – assets approach to valuation – Earnings approach – Market price approach.

### **3. BIO-STATISTICS & OPERATIONS RESEARCH**

#### **OBJECTIVES:**

To give broader understanding of the statistical concept and techniques for research study only and to develop an understanding of basic management science techniques and their role in managerial decision - making.

#### **UNIT - I**

##### **INTRODUCTION TO BASIC STATISTICS**

Introduction to concepts - Experimental settings and tests of hypothesis - Areas of application in statistics - Introduction to some essential features - Data recorded in routine clinical practice - qualitative and quantitative observations - Scale of measurement.

##### **FREQUENCY DISTRIBUTION, MEASURES OF CENTRAL TENDENCY AND DISPERSION:**

Conceptual issues - Frequency distribution - characteristics and diagrams - Arithmetic mean. Median, Mode, position of averages, percentiles - Geometric mean and Harmonic mean - selection of appropriate measures of central tendency - Measures of dispersion - concept of range - mean deviation - Interquartile range, variance and standard deviation - coefficient of variation and method of calculating standard deviation.

#### **UNIT - II**

##### **LINEAR REGRESSION AND CORRELATIONS**

Introduction - Scatter diagram, correlation and regression - correlation coefficient and regression equation and restriction - Multiple regression and other extensions.

### UNIT - III TESTS OF SIGNIFICANCE

Introduction to procedures, test of significance for large and small samples - Estimations for large and small samples - distribution of chi - square - formula, degree of freedom - application and misuses of che-square test - non pararnetric statistical tests further statistical methods - Introduction to concepts - Advantages and disadvantages of non parametric tests - Non parametric tests examples and illustrations.

### UNIT - IV INTRODUCTION

Evolution of Operations Research - Models - Formulation of Models - using models for problem solving - Techniques of Operations Research - Limitations of Operations Research.

### UNITS - V LINEAR PROGRAMMING

Requirements of L.P. Applications of L.P. - Graphical methods and Simplex methods of solving optimization problems - Duality and Sensitivity Analysis - Technical issues in Simplex method - SPECIAL PURPOSE ALGORITHMS Transportation model - Balanced and Unbalanced Problems - North - West Corner rule - Vogel's Approximation method - Assignment model - Hungarian model.

### UNIT - VI STAFFING

Definition of Staffing - Defining the Managerial job - the systems approach to Human Resource Management - Situational Factors affecting staffing - Selection matching the person with the job Design - Skills and personal Characteristics Needed by Managers - Matching Qualification with position Requirement - Orienting and socializing  
New Employees.

## UNIT - VII CONTROLLING

The Basic control Process - critical Control Points and Standards - Control as a Feedback system - Real - time Information and Control - Feed forward Control - Requirement or Effective control Techniques the Budget - Traditional Non Budgetary Control Devices - time - Event network Analysis - Information Technology - the use of Computers in Handling Information - Challenges Created by information Technology.

### **4. BASICS OF MEDICAL SCIENCE AND EPIDEMIOLOGY** **IN MEDICAL AND HEALTH SYSTEMS MANAGEMENT**

#### OBJECTIVES:

1. To familiarize students on human body systems.
2. To understand communicable and non communicable diseases.
3. To understand hospital infection control.

#### **PART - A** **BASICS OF MEDICAL SCIENCE**

#### **UNITS - I**

#### ORGANIZATION OF THE HUMAN BODY

Introduction to the Human Body - anatomical Position - Terminologies related to Anatomy - Levels of Organization of the body.

#### UNIT - II HUMAN BODY SYSTEMS

Structure, Components and function of different systems of human body - Skeleton system Muscular systems - endocrine systems - Nervous systems - Cardiovascular system - Respiratory system - Digestive system - Urinary system - Reproductive system - Excretory System.

#### UNIT - III APPLICATION OF BASIC SCIENCE CONCEPT IN MEDICAL SCIENCE

Osmosis - Diffusion - colloids - surface Tension - Viscosity - Gravitational force - Ion Transplantation in Human cell - Nature and Properness of major biochemical components and is functions.

PART - B  
**EPIDEMIOLOGY IN MEDICAL AND HEALTH SYSTEMS**

**MANAGEMENT**

UNIT - IV

a. CONCEPT OF HEALTH AND DISEASES

Concepts of Health, Definition and Dimensions of Health, spectrum of Health, Determinants of Health, Indicators of Health, concept of disease. Concept of disease, Concept of disease causation, Natural history of disease, Concept of disease control, Levels of prevention, Modes of disease intervention, Internal classification of disease.

b. PRINCIPLES OF EPIDEMIOLOGY AND EPIDEMIOLOGICAL METHODS

Definition and basic concepts of Epidemiology including epidemiological triad. Basic measurement in Epidemiology including measures of mortality and morbidity, Methods in Epidemiology, Infectious disease epidemiology, Investigation of an epidemic out break.

UNIT - V

COMMUNICABLE AND NON-COMMUNICABLE DISEASES

Nosocomial infectious and other common communicable disease - Measles, Chickenpox, Tuberculosis, viral hepatitis. HIV / AIDS, Tetanus.

Common Non communicable diseases - Coronary Heart Disease, Hypertension, diabetes, Cancer.

a. DEMOGRAPHY AND FAMILY WELFARE

Demographic Cycle, Demographic trend in India, National population policy 2000, Family Planning / Welfare Concepts Contraceptive methods. National Family Planning Programme.

## UNIT VI

### a. HOSPITAL INFECTION CONTROL:

Definitions, Hospital infections - importance determinants sources routes of transmission Principles of Control of Hospital infections. Infection control teams, Committees, policies and objectives of infection control department.

### b. ENVIRONMENTAL HEALTH AND HOSPITAL WASTE MANAGEMENT

Environment and health Pollution - Nature sources health effects and management concept of disinfection and decontamination, Hospital waste management, Control measures in wards operation theaters, laundry, kitchen, etc.

## **5. HEALTH ECONOMICS**

### OBJECTIVES:

The objective of this course is to acquaint the students with concepts and techniques used in Micro, macro - Economic Theory and to enable them to apply this knowledge in business decision - making, Emphasis is given to changes in the nature of business firms in the contest at globalization.

### UNIT - I

#### INTRODUCTION

Nature and scope of managerial economics - management and economics - Managerial economist - their roles and responsibilities.

### UNIT - II

#### THEORY OF DEMAND

Demand determinants - Elasticity of demand - Pries - income - sale relationship Demand forecasting - demand creation and fulfillment Indifference curve - Production Theory - Production function - economics of scale, laws of return - Nature of costs - Marginal costs and break - even analysis.

### UNIT - III FIRM AND MARKET STRUCTURE

Business theory of the firm - competition & Monopoly - Oligopolistic and Monopolists competition - Price and output decisions under different market conditions - Pricing and market segmentation - Perfect competition.

### UNIT - IV PROFIT

Profit - concept of profit - Nature and measurement of profit - Policies if profit maximization - Profit policies for management control - alternatives objectives of the firm.

### UNIT V BUSINESS CYCLE AND NATIONAL INCOME

Business cycle - Inflation - National Income and Economic growth - Structure of the economy Determination and measurement of national income.

### UNIT - VI FISCAL AND MONETARY POLICY

National plans, public, private and point sectors - Industrial finance - Fiscal and monetary policies - Problems of economics development in the inflationary situation - world Economics and Globalization - Origin(s) of crisis - Terms of Trade - Globalization - rationable, process and implications.



## **6. ORGANIZATIONAL BEHAVIOUR**

### OBJECTIVE:

The subject deals with people at work in organizations. It emphasizes the influence of motivation. Leadership, power and politics over the organizational function.

### UNIT - I

Significance of organizational behavior - scope historical development of organizational behavior - fundamental concepts - different school thought or organizational behavior - A conceptual model of organizational behavior - Hawthorne experiments and their significance in the industries.

### UNIT - II

Organization structure and theories - decision process - communication process - Control process - social system, understanding a social system roles and status - organization culture and climate - values and attitudes and job attitudes and job satisfaction.

### UNIT - III

Foundations of individual behavior - Biographical characteristics personality stage of personality development and personality theories - perception. Meaning and definition - perceptual process. Learning nature of learning. How learning occurs principles of learning and OB - concept of learning organization.

### UNIT - IV

The dynamics of group behavior theories of group behavior group behavior process determinants of group behavior - types of groups, group norms employee participation - Strategies for improving group decision making. Transactional analysis - conflict and conflict resolution models - Traditional and modern view of conflicts, power and politics - sources of power and cause for politics.

### UNIT - V

Leadership theories leadership models motivation and theories organizational changes - Resistance of change - organizational Development.

### UNIT VI

Managing creativity, work stress and counseling of employees to manage stress - types of counseling - Directive and non directive method.

## **7. BUSINESS COMMUNICATION AND COMPUTER APPLICATION**

### OBJECTIVE:

The objective of this course is to develop and increase the communication abilities and applying different software and hardware system available in the industry and build up the experience of computer usage in the Hospital and business organization with specific reference to data processing system.

### **A. BUSINESS COMMUNICATION**

#### UNIT - I

Needs, functions and kinds of business letter. How to write a effective business letter - Language and layout of a business letter. Writing of circular letters, sales letters, enquires and Replies, collection letters, complaints and public Relation Letters.

#### UNIT - II

Meeting purpose - Procedure - Chairmanship - Participation - Physical arrangements. Seminars and conference. Types of discussion groups - Resulting speech - Conducting seminars, Organizing conference, evaluating oral presentation. Technical proposals, Key factors - Types - contents format evaluation.

### **B. COMPUTER LANGUAGES**

#### UNIT - III

Organization of computers - Generation of computers - types of computers - Input devices - Output devices - Software - Systems Software Application Software - overview of DOS, UNIX & window operating systems. Programming Language - computer - Interpreter.

#### UNIT - IV

Test processing software - Introduction to MS - Office, Power-point word, Excel, Creation of Spreadsheet application - Range, formula's functions. Database function, Database function in spreadsheet - Graphics on spreadsheet.

#### UNIT - V

DATA Communication Networking - LAN and WAN - Wireless LAN - Internet, Internet - Extranet - Virtual Private Networks (VPN) Virus deduction and elimination.

#### UNIT - VI

Software Development Process - file Design & Report design - Data File types /Organization - Master & Transaction file - Program Development cycle - Flowchart -  
 Input process - Output Analysis.

## **8. HOSPITAL PLANNING ARCHITECTURE & PROJECT MANAGEMENT**

### **OBJECTIVE :**

The objective of this course is to familiarize the students as to hospital planning and Architecture and the preparation of Project Management, for hospital and other organizations.

### **UNIT –I**

Concept of Hospitals – Planning and Design of a Hospital (Building & Physical Layout) – space Required for Separate Functions – Different types of Hospitals – Problems and constrains in different type of Hospitals – History of Hospital Development – Departmentation and organization structure of different types of hospitals.

### **UNIT – II**

Organization – structure – vertical and Horizontal – Clinical and Non Clinical – supportive and Ancillary Service Departments.

### **UNIT – III**

Concept of Project management – concept of a project – categories of projects - project life cycle phases – project management concepts – tools and techniques for project management. The project manager – roles and responsibilities of project manager.

### **UNIT – IV**

Project formulation – stages – bottlenecks – feasibility report – financing arrangements – finalization of project – implementation schedule.

### **UNIT – V**

Organizing human resources and contracting – project manager – project manager's authority – project organization – accountability in project execution – contracts and selection of contractors – team building.

### **UNIT – VI**

Organizing systems and procedures – working of systems – deign of systems – projects work systems design – work break down structure – project execution plan – project procedure manual project control system – planning scheduling and monitoring – monitoring contracts and projects diary – project implementation stages project direction – communications in a project – coordination guidelines of effective implementation reporting in project management – project evaluation and its objectives, types and methods.

## **9. HEALTHCARE LAWS**

### OBJECTIVE :

The course is designed to assist the students in understanding basic affecting operations of a Hospital and health system.

### UNIT – I

#### CODE OF MEDICAL ETHICS

Code – Duties of Physician to their patients – Duties of Physician to the profession at large – duties of Physician to the profession in consultation – Duties of Physician to the profession to the public – Disciplinary action.

### UNIT – II

#### THE MEDICAL TERMINATION OF PREGNANCY ACT 1971

Indication or Grounds of MTP – Requirements for MTP – Complications of MTP – doctor and Criminal abortion.

### UNIT – III

#### THE PRENATAL DIAGNOSTIC RECHNIQUES ACT 1994.

Regulation of genetic counseling center – Regulation of pre –natal diagnostic technique – Determination of Sex prohibited – dying Declaration – Definition – Precautions – Procedure of Recording – Special Circumstances – Importance (section 32 & 157 ) of Indian Evidence Act ) – Death Certificate – Precautions while issuing death certificate – contents of Death Certificate - Importance of Death certificate.

### UNIT – IV

#### MEDICAL JURISPRUDENCE

Introduction & Legal Procedure – Medico legal aspects of death injuries – General aspects – Medical ethics – consumer Protection Act.

### UNIT – V

Medico Legal Aspects – Importance – Sterility – Sterilization & Artificial Insemination – Medico Legal aspects of Psychiatric and mental health – toxicology - Laws Relating to toxicology – Organ Transplantation At – Tamil Nadu clinics Act.

### UNIT – VI

#### LEGAL FRAMEWORK FOR HOSPITALS

Introduction to Legal framework – Patient’s rights & provider’s responsibility – Medical Malpractice of Medical Malpractice.

## **10. MARKETING MANAGEMENT**

### OBJECTIVE :

To familiarize the students about the environment of market, consumer Behavior and to develop the ability to design the best marketing strategy by analyzing the factors influencing the purchase decision.

### UNIT – I

#### INTRODUCTION

Introduction to concepts of marketing in a medical care organization – Needs wants, demands products, value, satisfaction and quality – Exchange transactions and relationships – medical marketing and marketers - Evolution of Marketing – Relationship Marketing.

### UNIT – II

#### STRATEGIC PLANNING

Strategic planning – mission, objectives, goals – setting marketing objectives – the marketing process – Target consumers, marketing strategic for competitive advantages for competitive advantage and developing this marketing mix – strategic Business Units – SBU – Concept of a marketing environment – the Macro environment in which the company operates – Demographic, economic, technologist cultural, political, etc – managing the marketing effort – analysis, planning, organization implementation, control and environment – Unit objectives – global marketing in the medical sector – WTO and its implications.

### UNIT – III

#### MARKETING RESEARCH AND CONSUMER BEHAVIOUR

marketing information systems – assessing information needs, developing and disseminating information – market Research process – other market research consideration – consumer Market and consumer Buyer Behavior – Model of consumer behavior – Characteristics affecting consumer behavior role – types of buying decision behavior – the buyer decision process – Business Markets & Business Buyer Behavior – Characteristics of business markets – Model of business buyer behavior – Major types of buying situations – Participants in the business buying process – the business buying process – Institutional and Government markets.

#### UNIT – IV

##### MARKET SEGMENTATION AND DEALING WITH COMPETITION

Market Segmentation, Targeting and Positioning for competitive Advantage – market and market segmentation – Requirements for effective segmentation – market targeting – evaluating and selecting market segments – Positioning for competitive advantage – Dealing with the competition – Identifying – analyzing competitions – Designing the competitive intelligence system Designing competitive strategies.

#### UNIT – V

##### PRODUCT AND PRICING STRATEGIES

Products, brand, packaging and services – concept of product design – product classification – Individual product decisions – product line decisions – product mix decisions including : International mix decision – New Product Development and Product Life cycle Strategic Concept of new Product – New Product success, failure, dilemma – New Product development process – Product life cycle strategic.

Product Pricing – considerations, Approaches and Strategic – Pricing – Factors to be considered when setting process – General pricing approaches – new Product strategic – market product – mix pricing strategic – price adjustment strategic and price changes.

#### UNIT – VI

##### MARKETING CHANNELS AND COMMUNICATION

The nature of distribution channel – channel behavior and organization – channel design decisions – channel management decisions – distribution and applicable to hospital products Physical distribution and logistics management – Retailing – store non – store retailing, decision – future prospects – wholesaling – types trends, decisions – Advertising, sale promotion growth tools, promotion programmes – Public / business relations tools decisions, etc – Personal Selling – role personal selling – nature and sales force – managing the sales force – designing structure, strategy etc – principles of personal selling – process, relationships etc.

## **11. LOGISTICS FOR HEALTH CARE SERVICES**

### OBJECTIVE :

1. To explore development of the logistics functions.
2. to examine the strategic function of logistics Management in the Modern Corporation.

### UNIT – 1

#### LOGISTICS ROLE IN THE ECONOMY AND THE FIRM

Definition of Logistics Management – Logistics role in the Economy – Logistics Role in the Firm – Development of Logistics Management – Future Challenges – the Integrated Logistics Management Concept – Introduction – Logistics and the Marketing function – The total cost concept – Logistics and corporate Profit performance – the financial Impact of Logistics Decision – Conducting a Logistics and Marketing audit – developing a Logistics Strategy.

### UNIT – II CUSTOMER SERVICE

Element of customer Service – Consumer Reactions to Stock outs – cost / Revenue Trade – offs – ABC Analysis – the Customer Service Audits – Identifying Potential solution – Establishing customer service levels – Developing and Reporting customer service standards – Impediments to an Effective customer Service strategy – Improving customer Service Performance Transportation – time and place utility – Transportation / Logistics / marketing interface – Factors influencing Transportation costs / pricing – Transportation Service Characteristics – the Transportation system – Transportation Regulation – Regulatory Reforms.

### UNIT – III

#### WAREHOUSING

Nature and Importance of Warehousing – type of Warehousing – A comparison of Public and Private warehousing – Warehousing Operations Facility Development – size and Number of Warehouses – Location Analysis – Warehouse Layout and Design – Package – computer Technology, Information and Warehouse Management – Warehouse Productivity Measurement – Improving Warehouse Productivity.

#### UNIT – IV

##### FINANCIAL IMPACT OF INVENTORY

Financial Aspects of Inventory Strategy – Inventory Carrying costs – the impact of Inventor Turnover on Inventory Carrying costs – Inventory Management – Basic Inventory Concepts Basic Inventory concepts – Basic Inventory Management – Inventory management under conditions of certainty – inventor – Management under Uncertainty – Calculating Safety Stock Requirements – Calculating Fill Rate - Symptoms of poor Inventory Management – Impact of an Inventory Reduction on Corporate Profit Performance – Economic Quantity.

#### UNIT –V

##### PURCHASING

Purchasing activities – supplier Selection and Evaluation – Quality Control – forward Buying just – in – time Purchasing – “Loose” Engineering Specification - Benefits of Value analysis Benefits of JIT Purchasing Research and Planning – Purchasing cost management Measurement and Evaluation of Purchasing Performance – Impact Export Policy – Letter of Credit – Import of goods, equipment – General consideration – Impact documentation and customs clearance – Medical Equipment procurement considerations – Order processing and Information systems – Customer order cycle – the communications function – Advanced order Processing systems – Inside Sales /Telemarketing Electronic Data Interchange (EDI) – Integrated Order Processing and the company’s Logistics – Management of Information system.

#### UNIT – VI

##### REGULATORY REQUIREMENT AND HEALTH CARE CODES

FDA Regulation – Joint commission of Accreditation of Hospital – National Fire Protection Association Standard, IRPC – Equipment Maintains Management – Organizing Maintenance Operation – Paperwork Control – Maintenance job Planning – Work measurements and Standards – Preventive Maintenance – Maintenance Budgeting and Forecasting – Maintenance Training Contract maintenance - Equipment Audit – Arbitration Quality improvement in store management.



## **12. HUMAN RESOURCES MANAGEMENT**

### OBJECTIVE :

This Paper is to understand the importance of Human Resources Management in the organization how training and development, preference appraisal and compensation can help improving the functioning of personnel ; the role played by industrial relations and labour laws in shaping HRM.

### UNIT – I

Evolution of HRM – The strategic significance of HRM in today’s business – the concept of HRD – The HRM structure – The line and the staff function of HRM – the role of HR managers.

### UNIT –II

Organizational job design – the issues behind it. The concepts of job description and specification and its uses. The role of job enrichment, enlargement job rotation and job evaluation in HR functioning – Human resources planning the factors behind the process Recruitment and induction – the selection procedures and uses of psychological and trade tests.

### UNIT – III

Training and development – the methods of training available and their benefits – use of feed back for improvement. Performance appraisal systems – the different methods and pitfalls behind them. The concept of career plan and its benefits promotion and transfers – The types of transfers and promotion process. Welfare programs and issues governing them.

### UNIT – IV

Wage and salary administration – the theories relating to it – concept of incentive and its operational implications – fringe benefits – management of perquisites – participative decision making – suggestion making - industrial discipline – management of safety – concept of collective bargaining – the role of trade union in industrial relations.

### UNIT – V

Labour Laws – the Industrial Dispute Act 1947 – Industrial Employment (Standing Orders) Act 1946 – The Trade Unions Act 1926 – Contract Labour Act.

### UNIT – VI

Employee’s Provident funds Act 1952, and payment of Gratuity Act 1972 – Payment of Wages Act 1936 – Minimum Wages Act, 1948 – E.S.I. Act 1948 – Workmen Compensation Act. 1923.

**SECOND YEAR:****1. PUBLIC HEALTH SYSTEMS & HEALTH INSURANCE****OBJECTIVE :**

1. Understand the policies and theories for creating a better provision for health care.
2. Developing knowledge in the area of Health Sector Reform with a special emphasis on Indian health sector related policies.
3. to familiarize students in the areas of Risk Management and Insurance.
4. conceptualizing the importance and monitoring quality in health care with a special emphasis on tools for quality improvement.

**UNIT – I****ISSUES, THORIES AND CONCEPTS IN POLICY FORMULATION**

Welfare economics and investments in human capital – Health Economics – Demand of Health and Health services - Demand elasticity and health – Health – production, health and health care – economic evaluation of health care – economics of markets and market intervention – role and responsibility of Government in the Health Sector – Evident Based Policy.

**UNIT – II****FINANCING, RESOURCE ALLOCATION AND HEALTH SECTOR REFORM**

Mobilizing finance & model of financing – Public Expenditure in Health Mobilization of Private Resources – Selection of a suitable option – role of International Agencies – health sector reform – Health systems around the world – Reliance on the state – voluntary insurance based system – social insurance system – parallel systems – trends in the health sector reform – country experience with health sector reform – Analytical Approach to health sector reform.

**UNIT – III****PLAN IMPLEMENTATUION AND CONTROL**

National Health Programme – Tools improving planning process – Regulation – Health service : research – Measurement of Health / medical need and services Utilization – Resource Allocation : cost benefit analysis – Eco based budgeting – System analysis and operation research in Health Care Programme – Control mechanism.

**UNIT – IV****RISK INSURANCE AND MANAGEMENT**

Introduction to risk and Insurance – risk Identification and risk Evaluation – risk Management Techniques – risk management and Insurance Industry – Principle of Insurance and Insurance contracts – The Structure of Insurance Industry and Player – Selection and Implementation of risk management Techniques – WTO - Insurance Law and Regulation – Insurance Laws – Regulation of Insurance and IRDA – Tax Laws – International Laws – Legal Framework and Documentation.

**UNIT – V****GROUP AND HEALTH INSURANCE**

Principles of Health Insurance – health Insurance products – Group Insurance Products– Product design, Development and Evaluation – Risk Assessment, Underwriting and Premium Setting. Claims Management – Claims Management – Third Party Administration – social Security –II Application – current Developments.

**UNIT – VI****ACTUARIAL PRINCIPLES AND PRACTICE**

Actuarial Principles – Demography – Survival distributions and Life Tables – Interest and Life contingencies – Credibility theory and Loss distribution – Principles of Ratemaking – Data Required for Ratemaking – Premium, Loss and Expense Reserves – Insurance Models Application of Models – current Developments.

## **2. RESEARCH METHODOLOGY**

### OBJECTIVE :

1. To introduce the concept of scientific Research and the methods of conducting scientific data collection.
2. To introduce the statistical tools of data Analysis and to conduct a Research study and prepare the report writings

protocol. UNIT – I

### RESEARCH METHODOLOGY

Introduction to concepts – Definition, objectives, types approaches, significance – Research methods v/s methodology – Research process – Criteria of good research – Research problems encountered by researchers – Defining the Research problem – Defining a Research problem, and its importance – Technique involved in a selecting a Research problem- Selecting the Research problem – Research Design – Meaning and need for research design – Features of a good design – Important concepts relating to research design – Explanation of different types of research designs and their uses – Developing a research plan.

UNIT – II

### SAMPLING DESIGN

Census and sample survey – the Sampling Process – Sample Size – Determination – Various sampling methods – Measurement and scaling Techniques – Measurement concept in research – Measurement scales and test of sound measurement – Technique of developing measurement tools – Sources of errors in measurement – Scaling – definition, classification, important techniques – derived Attitude Scales – Scale construction techniques – questionnaire Design.

UNIT – III

### METHODS OF DATA COLLECTION

Concept of primary and secondary data – Methods of data collection – questionnaire, schedule – Observations, interview, case study, etc – Appropriate method of data collection and guideline Data Processing and Analysis – Processing operations – Problems in processing – Unvaried Hypothesis Tests – Hypothesis tests Requirement interval data – Hypothesis tests using ordinal data – Hypothesis tests using nominal data – Multivariate Hypothesis Test – ANOVA without interaction – ANOVA with interaction – Measures of Association – Measure of Association between two variables – Multivariate Measures of association – types of analysis and statistics in research

**UNIT – IV****INTERPRETATION AND REPORT WRITING**

Meaning of interpretation – Need and technique of data interpretation – Caution in interpretation – significance and steps in report writing – Marketing Information and Decision Support systems – Marketing Information systems – Marketing Decision support systems – Expert systems.

**UNIT –V****SALES FORECASTING**

Judgmental Methods of forecasting – forecasting by time Series Analysis and Projection – Casual methods of Forecasting – error costs and the value of Forecasts – the choice of Forecasting Models.

**UNIT – VI****ETHICAL ISSUES IN RESEARCH**

The nature of Ethical issues in Research – Ethical Issues in Medical Research – Health Management Research – Introduction to concept of HMR – Steps in the Process of HMR – HMR as a tool in health management decision making process – Avenues and approaches to HMR.

### **3.SAFETY AND RISK MANAGEMENT**

#### **OBJECTIVE :**

1. To familiarize the students to identify the areas of Safety and Risk management and insurance.
2. To focus the students more specifically on health insurance products.
3. To familiarize the hospital administration in the area of disaster management of the Hospital with special emphasis of risk management.

#### **UNIT – I**

##### **HOSPITAL ACQUIRED INFECTION**

Objective – Introduction - Control and Prevention – House Keeping – Dietary Services – Linen and Laundry – Sterile supply Department (CSSD) – Security – engineering Aspects – Nursing Care – Waste disposal – antibiotic Policy – Hospital Infection control committee – Composition – Role and Functions – Surveillance – Processing of information collected – Mode of Transmission – Interruption of Transmission – High risk Procedures – training and Education – Universal precautions for Health Care Workers – Legal Aspects.

#### **UNIT – II**

##### **DISASTER MANAGEMENT**

Objective – Basic Concepts – General – disaster Classification – disaster Process – Spectrum of disaster Management – Special characteristics – disaster Management in India – National level – state Level – Principles of disaster Planning – disaster and health Problems – Organization for Medical Relief – Principles of Mass – Casualty Management – Objectives of Hospital disaster plan – need for Hospital Disaster Plan – Objective and Purpose – Planning Process and Development of Plan – disaster Committee – Organization – role and Responsibilities – Organizing Disaster Facilities – disaster Response – Response – alert and Recall – Deployment – Disaster Administration – Disaster Manual – Disaster Drill.

#### **UNIT – III**

##### **FIRE HAZARDS**

Elements of fire – fire Hazard Triangle – Causes of Hospital Fires – fire Protection – Structure Planning and Design Consideration – Building harness communication zone – Building Services – Central Air - conditioning Facilities –Electric Installation – special Hazards – fixed Installation – Hazards Associated with furnishing Material curtains Upholstery, Dresses, Bed and Bedding Materials – Water supply - fire points and Escape routes – Fuel Store – Manual Call Points Means of Escape – risk Evaluation.

## UNIT – IV

### RADIATION HAZARDS

Introduction – Biological Effects of Radiation Hazards – diagnostic Imaging – Radiator Protection and Safety – Radiation safety Monitoring – Principles in the layout of a diagnostic X –ray room – Video Imaging Modalities – contrast Media – Laser Imaging – Magnetic Resonance Imaging – Planning constrains – Preventive Measures Against Magnetic field Hazards – Nuclear Medicine Department – Facility Planning – radiation Protection Aspects – Radioactive Waste Collection and disposal – Procedure for obtaining clearance Radiation therapy – Facility Planning and Procedure – Radiation Protection Facility – Radioactive Waste.

## UNIT –V

### SECURITY ORGANISATION AND MANAGEMENT

Security Threats and Vulnerabilities of Hospital – threats and Vulnerabilities of Hospitals – threat Groups – Security Sensitive Areas – function of Hospitals – Strategic Security system – Role of Hospital Security – function of Hospital Security Department – Non – traditional “Service” Function – Security organization and Physical Security Measures – Security Organization – the Staff Complement – Physical Security Measures – Perimeter Protection system – Implementing Physical Controls – Access Control Concepts - Definition Means and Components – Integration of Security Technology – Need for security Technology – Security Technology Plan – computer and Information Security- Selection and Management of Departmental Security Staff/Contract Security Agency and Security Training – system Choice – Selection of Contract Security Agency – Verification of Security Personnel – Security Staff Discipline – Security Training.

## UNIT – VI SECURITY AND LAW

Introduction – some Basic provisions of the Indian Penal Code (IPC) – concerning Security – Authority to Arrest, use Conduct Searches, First, Inspect, Interrogate and Interview – Reporting procedure – Strategic Security Policies and Procedure – Introduction – Effective Security Management IN Hospitals – Central Security Control Room – Patrols and Post – Procedures /Techniques – Control of Visitors / OPD Patients/Attendants – Standing Instructions for security of Cash – Security Budgeting – Security Committee – Periodic Security Audit and updating of Security procedures – Conclusion – Security – Related Crisis / Disaster Management in Hospital – Introduction – types of Disasters – preparing for a Disaster – Bomb threat / Responses

## **4. BUSINESS POLICY AND STRATEGIC MANAGEMENT**

### OBJECTIVE :

The course aims to develop the decision making ability of the student through case discussions seminars, quiz programmes, Role playing Management games etc in business – environment and formulation of business plans strategies in the real world situation.

### UNIT –I

Business Policies – Originated policy – appealed policy externally imposed policy – Need and importance of policies Principles of policy making – Method of formulating a new or revised policy policy Administration – functional Policies – Relationship of business policies to company goals, plans and strategies. Type of policies used in Corporation – corporate planning :Difference between operational and strategic planning – Characteristics of strategic steps involved in a strategic plan – A corporate Marketing plan framing action programmes - Strategic Management – Evolution – nature and importance of Strategic Management – Relationship between Strategic Management and Operational Management.

### UNIT – II

Marketing orientation to development policy – corporate strategy – distinction between strategy and strategic plan – defensive strategy – Offensive strategy – classification strategic – Competitive Analysis – Industry Analysis – Self Analysis of organizations.

### UNIT – III

Strategic use of marketing variables – Business Portfolio Analysis – Merger – Horizontal merger – Vertical merger – conglomerate merger – Product extension – Market extension – Pure conglomerate extension – Acquisition – Joint Venture.

### UNIT – IV

Concept of Product diversification – Classification of diversification – Single product diversification – Horizontal diversification – conglomerate diversification – Market penetration – Market development – Product development – diversification in selected Indian Industries - case study of some Indian Industries – corporate image – corporate image versus brand image – Dimensions of corporate image – Survey method to determine the corporate image – Social audit – social Performance – Business ethics – Evolution – Concepts – social Marketing – Social Auditing – Basic Procedures – Benefits of social audit.



**UNIT – V**

Organizational environment – stable environment – changed environment – turbulent environment matching the system to the environment – Matching system – organic system differentiation – Integration – Organizational Life cycle – Evolution – Revolution Creativity – direction, Coordination – collaboration – Management environment – Social – Cultural Economic political – Educational – Ethics environment.

**UNIT - VI**

Impact of technology – An organizational structure – Impact of culture values on managerial effectiveness – people and structure – Managers and employees structure – Social responsibilities of business – Areas of involvement. The Government's role in Business Rationalization – automation and Nationalization - Strategies for International operations – globalization of Business – Strategic – control process.

### **5.SERVICES MARKETING AND CONSUMER BEHAVIOUR**

**OBJECTIVE :**

1. To inculcate application of Marketing for service businesses from a managerial perspective.
2. to provide a managerial frame work of service marketing.

**UNIT :1****SERVICE MARKETING**

Distinctive Aspects of Service Management – Service in the Modern Economy – Marketing Services Versus Physical goods – an Integrated Approach to Service Management – the Evolving Environment of Services – customer Involvement in Service Processes – Difference : among the Services – Services as a Process – Marketing In Hospital – Application of marketing principles in Hospitals – Marketing process in Hospitals – Customers in Hospital Different – System Approach for customer service.

## UNIT – II

### MARKETING SPECIAL SERVICES IN HOSPITALS

Women's Health Care and Maternity Services – Marketing Birthing Rooms – Geriatric Services Educational Programme for Marketing to the elderly – Psychiatric Care Referral sources Special clinics – Pediatric Service – Dental service – Cardiac Services – Trauma Care – Neurology Service – Preventive Medicine – Promotion Mix – Public Standing of a Hospital – employees first line of PR – function of Public Relations – Promotional tools.

## UNIT – III

### HOSPITAL AND MEDIA RELATIONS AND MARKETING NON – PROFIT ORGANIZATIONS

Establishment of media relations policy – Developing an effective media Relations Programme – Handling news media during disaster – Service Scope in Hospital – employees communicate real spirit – Public relations marketing tools – Clean and Hygienic Hospital – Food Service – Liner service - What makes patients select a Hospital – Economic Imperatives – Non – Profit organizations are different – Need for marketing Non – Profit Organizations – to market or notices market – six Alternatives – Understanding the marketing mix.

## UNIT : IV

### MARKETING FOR ORGANIZED SECTOR

Introduction – Prevention and Wellness Programmes – Market Survey – Occupational health and Safety Measures – Description of programmes – promoting and marketing programmes – Cardiopulmonary Resuscitation – High blood pressure control – Executive Examination – Pre employment examination.

## UNIT :V

### SERVICE QUALITY

Creating Delivery systems – Enhancing Value by Improving Quality and Productivity – Balancing Demand and Capacity – Managing customer Waiting Lines and Reservations – Five Gap theories – Service Marketing Strategies – Targeting customers – Managing Relationships – Building Loyalty – Complaint Handling – Service Recovery – Positioning a Service in the Marketplace – Creating the Service product and Adding Value.

## UNIT – VI

### CONSUMER BEHAVIOUR

Consumer Markets & consumer Buyer Behavior – Models of consumer behavior – Characteristics affecting consumer behavior – consumer buying roles – types of buying decision behavior - The buyer decision process – Business Market and Business buyer Behavior – Characteristics of business markets – Model of business buyer behavior – Major types of buying situations – Participants in the business buying process – the business buying process – Institutional and Government markets.

## **6.HEALTHCARE TECHNOLOGY & PHARMACEUTICALS MANAGEMENT**

### OBJECTIVE :

1. To familiarize students in Drug Development Process.
2. To create awareness about pharmacy law
3. To familiarize application of technology in health care.

## UNIT –I

### DRUG DEVELOPMENT

Economics of new drug development need, invention methods Chemical, natural, microbial biotechnological, etc, Including devices, toxicity, activity screening methods, pre –chemical development stages : acute, sub and chronic toxicity studies, Special tests and their significance, dose determination, Investigational new drugs (IND) status, clinical development phase, I,II,III studies and their significance. (NDA) new drug application, product launch.

## UNIT – II

### PHARMACEUTICAL DEVELOPMENT PROCESS

Pre-formulation studies importance of Pharmacopeias, Pharma co –dynamics, understanding of oral dosage forms: Powders tablets : creating syrups, elixirs, suspensions, capsules topical preparations, radio diagnostic and therapeutic agents, vaccines, hormones, cosmetics biotechnological and surgical products, concepts of sustained release, modified release dosage forms, herbal drug, prosthetic materials, neutraceuticals.

**UNIT - III****PHARMACY LAW**

Pharmaceutical legislations, Drugs and Pharmaceutical Industry, Drugs, and Cosmetics Act 194 and rules 1945 and its amendments, Pharmacy Act 1948, drugs price control order, drug and magic Remedies (Objectionable Advertisements) Act, 1954 National Health Policy.

**UNIT – IV****CONCEPTS AND ISSUES RELATED TO HEALTHCARE TECHNOLOGY**

Introduction – Problems and constraints associated with healthcare Technology – present trend in Healthcare Technology – Hospitals and Technology – Dealing with Technological Problems.

**UNIT –V****PLANNING PROCESS FOR INTRODUCTION OF TECHNOLOGY IN HEALTHCARE**

Healthcare Technology in developing countries – Planning and adopting appropriate Technology in healthcare - Mechanism to ensure appropriate use of healthcare Technologies – Developing sources of information on hospital technology – Evaluation methods of health technology.

**UNIT – VI****APPLICATION OF TECHNOLOGY IN DIFFERENT HEALTHCARE UNITS**

(Application in diagnostic Service areas ( Radiology, Lab Services etc) Clinical Services areas (Nephrology, Urology, Cardiology etc) – Therapeutic services – Patient support areas.

## **7.HOSPITAL INFORMATION SYSTEMS INCLUDING MEDICAL RECORDS**

### **OBJECTIVES :**

To understand the importance and application of Information Technology in Industries to learn the modern method of promoting business through internet, to emphasis on current Commerce trends, to study and understand the importance of data resources for organization to explore the information needs of hospitals and understand the importance of computerization of medical data.

### **UNIT – I**

#### **INTRODUCTION TO INFORMATION SYSTEMS IN BUSINESS**

The need for Information systems – the Increasing Value of Information Technology – the Networking of computing – Business Process Re engineering – IT as a tool for competitive advantage.

### **UNIT – II**

#### **MANAGERIAL OVERVIEW – HARDWARE / SOFTWARE**

Computer Peripherals – Input Technology Trends – Voice Recognition and Response Optical Scanning – Output Technology and Trends – Video Output – Storage Trends Application software for End Users – word Processing and Desktop Publishing – systems Software – Operating Systems – Programming Languages.

### **UNIT – III**

#### **MANAGERIAL OVERVIEW – HARDWARE SYSTEMS**

Foundation Data Concepts = The Database Management Approach – Types of Databases types of Databases – Database structure – Data Mining – Benefits and Limitations of Database management.

### **UNIT – IV**

#### **THE INTERNET AND ELECTRONIC COMMERCE**

Business Use of the Internet – Interactive marketing – E-Commerce Application – Business to Consumer – Business to Business Commerce.

## UNIT - V

## MEDICAL RECORDS

Role of Medical Records in Health Care Delivery – General Medical Records Standards and Policies – Legal Aspects of Medical Records –Medical Audit Computerization of Medical Records – Information Needs in the Hospital – sources of Health Information – User of Health and Hospital Data.

## UNIT – VI

## HOSPITAL INFORMATION SYSTEMS

Management decision and Related Information Requirement – Clinical Information Systems – Administration Information systems = Support Service Technical Information Systems – Medical Transcription.

### **8. INTERNATIONAL HEALTH MANAGEMENT**

## OBJECTIVE :

To know and understand the International Health Scenario and Health Care delivery process and also to develop perspective for healthcare product and service to go global.

## UNIT –I

## HEALTHCARE : A GLOBAL PERSPECTIVE :

Healthcare Challenges : a Global perspective :- wide gap in Healthcare delivery – Healthcare financing in developed and developing countries – Developing National Health Accounts \_ Application in selected countries.

## UNIT – II

## HEALTH INSURANCE AND MANAGED CARE

Concept – Historical background – Comparative study in Health Insurance in National and International perspective - Risk pooling concept – concept of managed care – components – managed care models – study of socialized medicine, social Insurance, Mandatory Insurance and Voluntary Insurance.

### UNIT – III

#### THE REFORMS OF HEALTHCARE SYSTEM

Evolutionary reform (Italy, Portugal, Greece, Australia, etc) in Healthcare Structural reforms in Healthcare (New Zealand, Sweden, Switzerland and United States etc.) International convergence in Health care system – Health sector reforms, lessons from different countries.

### UNIT – IV

#### DISTINCTIVE SYSTEM OF HEALTH CARE DELIVERY

An overview of the scope and size of the system – Basic components of a health services delivery system – A disenfranchised segment – transition from traditional insurance to managed care – Trends and directions – significance for health care practitioners and policy makers – positioning the organization – handling threats and opportunities – evaluation implications – planning capturing new markets – complying with regulations – following the organizational mission – health care systems of other countries – system foundation – system resources - system processes – system outcomes – system outlook.

### UNIT – V

#### INTELLECTUAL PROPERTY RIGHTS (IPD)

TRIPS – IPR - The patent cooperation Treaty (PCT) – the PCT System – PCT for produce design – world Intellectual Property Organization (WIPO) structure and role in new pattern regime – the Madrid System – International Registration of Industrial Design – Registration by category of right holder – industrial Designs by chases.

### UNIT – VI

#### HEALTH POLICY

Health Policy – Definition – different forms of Health policies – Regulatory tools – Government as Subsidiary to the private sector – Fragmented, Incremental, Piecemeal reform – Pluralistic and Interest group politics – Decentralized role of the states - the Policy cycle – Suppliers of policy – Legislative Committee and subcommittees – House Committee – senate committee. Legislative process – Access to care – Providers – access and the elderly – access and minorities access in rural areas – access and low income – access and persons with AIDS – Cost of Care Quality of Care – Research and Policy development.

## **9.QUALITY ASSURANCE AND MANAGEMENT IN HEALTHCARE**

### **OBJECTIVE :**

The objective of this course is to acquaint the students with the basic concepts of total Quality (TQ) from design assurance to service assurance to give emphasis on International Quality Certification System ISO 9001 :2000 to understand the process approach to quality management in hospitals.

### **UNIT – I**

#### **EVOLUTION OF QUALITY MANAGEMENT**

Evolution of quality control, quality characteristics – variable and attributes – Non conforming and non conforming unit – Defect – Standard or specification – Quality of design – Quality of conformance – quality of performance – Total Quality Control.

### **UNIT – II**

#### **TOTAL QUALITY MANAGEMENT**

Principles of TQM, Implementation Methodology benefits Implementing TQM Concepts in Hospital Departments – Six Sigma Quality and Quality improvement Teams – Benefits of quality control.

### **UNIT – III**

#### **PROCESS APPROACH TO QUALITY MANAGEMENT IN HOSPITALS**

Process understand - Physical Characteristics – Statistical Characterization – Preparation of process flow diagrams for distinct processes in a hospital quality aspects of processes in Hospitals Diagnostic services – Nursing services – House Keeping – Blood Bank – Pharmacy – OPD – Surgery – ICU – CCU – emergency and Trauma care – Canteen – Hospital Stores.

### **UNIT – IV**

#### **PROCESS CAPABILITY ANALYSIS**

Quality Control methods and measurement systems specification limits and control limits – process capability analysis tools – control charts – models – quality control tools – control charts up.



UNIT – V

QUALITY ASSURANCE METHODS PATIENT SATISFACTION

Quality Assurance in Hospitals Sop's – patient orientation for total Patient Satisfaction  
55 techniques.

UNIT – VI

QUALITY CERTIFICATION SYSTEMS

International Standards ISO 9000 – 9004 – Features of ISO 9001 – ISO 14000 –  
environment Management systems.

REFERENCES :

1. Management Principles for Health Professionals. 2<sup>nd</sup> edition (1992) – Joan rantor Liebley, Ruth Eller Louvine, Jeffrey Rothman, Aspex publication, Gaithersburg. Maryland.
2. Principles of Management – G. Venkatesan (1994). J.J. Publisher (Madurai).
3. Management in Health Care – A Theoretical and Experiential approach (1997) – Elaine Lynnela Monica and Philip Ian Morgan. Macmillan publishers.
4. Essentials of Management – Harold Konntz Weihrich - Tata McGraw Hil – Fifth Edition.

## SYLLABUS

### Epidemiology, Biostatistics and Medical Ethics

#### **UNIT I: Epidemiology**

Introduction: Historical aspects and evolution of epidemiology, definitions and concepts in Epidemiology.

Approaches in epidemiology: Descriptive and analytical epidemiology, disease burden, natural history of diseases and measures of risk and death.

Study design and sampling: Sample size estimation and introduction to study design in epidemiological investigations.

#### **UNIT II: Biostatistics**

Fundamentals of biostatistics: Introduction, types of data, tabular and graphical presentation of data. Measures of location, dispersion and correlation: Measures of central tendency. Mean, mode, median, GM, HM, quartiles Measures of dispersion—range, standard deviation, variance, coefficient of variation.

Probability and statistical inference: Concept and probability distribution. Normal distribution—density curves, applications and statistical tables. Concept of significance tests, parametric and nonparametric tests, standard error and confidence intervals.

Inferential statistics: Probability and distributions – Poisson, Binomial and Normal distribution – Chi-square test – Hypothesis test - Student's t-test – Correlation and Regression – ANOVA.

#### **UNIT III: Medical Ethics**

Bioethics and Medical ethics: Historical perspectives & Introduction to Bioethics, Nuremberg Code, Declaration of Helsinki, Principle of essentiality, informed consent, confidentiality, minimisation of risk, accountability and responsibility. Ethics of clinical trials: Drug trials, vaccine trials, Clinical trials with medical devices/surgical procedures/radioactive materials, Research in transplantation and stem cell therapy. Regulatory framework and guidelines for conduction of human research: Review processes, Institutional ethical committees, composition of committees, review procedures, WHO, UNESCO and ICMR guidelines.

#### **References :**

(e) Epidemiology: An Introduction. Kenneth J. J. Rothman. Latest edition / Pub. Date: May 2002. Publisher: Oxford University Press.

(f) Epidemiology. Leon Gordis. Latest edition / Pub. Date: November 2004. Publisher: Elsevier Health Sciences.

(g) Diseases and Human Evolution. Ethne Barnes. Latest edition / Latest edition / Pub. Date: March 2005. Publisher: University of New Mexico Press.

- (c) Epidemiology: Beyond the Basics. F. Javier Nieto, Moyses Szklo. Latest edition / Pub. Date: November 2003. Publisher: Jones & Bartlett Publishers, Inc.
- (d) Basic and Clinical Biostatistics. Beth Dawson, Robert G. Trapp, Robert Trapp. Latest edition / Pub. Date: March 2004.
- (e) Discovering Statistics Using SPSS. Andy Field. Latest edition / Pub. Date: April 2005. Publisher: SAGE Publications.
7. Arora PN & Malhon PK (1996). Biostatistics Imalaya Publishing House, Mumbai.
- 12.** Sokal & Rohlf (1973). Introduction to Biostatistics, Toppan Co. Japan.
- 13.** Stanton A & Clantz, Primer of Biostatistics — The McGraw Hill Inc., New York.
10. Government of India. Good Clinical Practices for Clinical Research in India. New Delhi: 2001
- 2 Indian Council of Medical Research. Ethical Guidelines for Biomedical Research on Human Subjects. New Delhi: 2000
12. United Nations Educational, Scientific and Cultural Organisation (UNESCO). Universal Declaration on Bioethics and Human Rights. Paris; 2005

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