MBA Hospital Administration
Course Structure

I Year I-Semester

Course code	Course Title	Periods Per Week		Max.Marks		Credits
		Lec.	Lab	Sess.	Exams	
23HA101	Management Concepts and Organizational Behavior	4	-	40	60	4
23HA102	Health Economics	4	-	40	60	4
23HA103	Accounting For Decision Making	4	-	40	60	4
23HA104	Human Resources Management	4	-	40	60	4
23HA105	Marketing for Healthcare Services	4	-	40	60	4
23HA106	Elective-1	4		40	60	4
23HA107	Elective-2	4		40	60	4
23HA108	Hospital Visit	-	-	100	0	2
23HA109	Introduction to IT LAB	-	4	50	50	2
23HA110	Corporate skills	3	-	50	50	-
	Total	31	4	480	520	32

I Year II-Semester

S.No.	Course Title	Periods Per Week		Max.Marks		Credits
		Lec.	Lab	Sess.	Exams	
23HA201	Research Methodology for Hospital Management	4	-	40	60	4
23HA202	Hospital Architecture Planning and Maintenance	4	-	40	60	4
23HA203	Healthcare Laws, Ethics, Counselling Skills	4	-	40	60	4

23HA204	Hospitals Operations Management	4	-	40	60	4
23HA205	Supply Chain Management in Hospitals	4	-	40	60	4
23HA206	Elective-3	4	-	40	60	4
23HA207	Elective-4	4	-	40	60	4
23HA208	Internship (Report and viva) **			50	50	2
23HA209	Hospital Software Tools LAB	-	4	50	50	2
23HA210	Aptitude & Logical reasoning	3	-	50	50	-
	Total	31	4	430	570	32

II Year I-Semester

S.No.	Course Title	Periods Per Week		Max.Marks		Credits
		Lec.	Lab	Sess.	Exams	
23HA301	Total Quality Management & Hospital Accreditation	4	-	40	60	4
23HA302	Management Information Systems in Hospitals	4	-	40	60	4
23HA303	Operations Research	4	-	40	60	4
23HA304	Elective-5	4	-	40	60	4
23HA305	Elective-6	4		40	60	4
23HA306	MOOCS			100		3
	Total	20	6	250	350	23

II Year II-Semester

S.No.	Course Title	Periods Per Week		Max.Marks		Credits
		Lec.	Lab	Sess.	Exams	
23HA401	Hospital Innovations, technology & Artificial Intelligence	4		40	60	4
23HA402	Entrepreneurship & Consultancy in Health Care	4		40	60	4
23HA403	Elective-7	4		40	60	4
23HA404	Project	-		Recommended with grade O,A,B,C,D /Not recommended		5
	Total	12		120	180	17

MOOCS	Introduction to Tele-Medicine	National Health Programmes	

Professional Electives

Elective-1 (23HA106)
a) Health Insurance and Medical Tourism b) Financial Management
Elective-2 (23HA107)
a) Community Healthcare Management b) Management of Hospital Services
Elective-3 (23HA206)
a) Patient Care Management b) Health Care Information Technology & Systems
Elective-4 (23HA207)
a) Hospitals & Pharmaceutical Management b) Pharmaceutical Marketing

Elective-5 (23HA304)
a) Introduction to Epidemiology and Biostatistics b) Epidemic & Disaster Management
Elective-6 (23HA305)
a) Enterprise Recourse Planning for Hospitals b) Intellectual Property Rights
Elective-7 (23HA403)
a) Hospital Waste Management b) Hospital Hazards & Health Care Risk Management

Total Quality Management &Hospital Accreditation							
Course Code	Periods			Sessional Marks	End Exam Marks	Total Marks	Credits
	L	T	P				
23HA301	4	0		40	60	100	4

Course Objectives:

- To Introduce with TQM Concepts
- To understand the importance of Quality in hospital management

SYLLABUS

UNIT – I	**Periods: 8L+0T=8**
Evolution of Quality Management: Introduction, concept, definition, origin & growth of Quality Management; Importance and Significance of TQM for Hospitals; Prerequisites of Quality Management in Hospitals; Role of Medical Record in Quality Management; Quality Circles; Quality Assurance.	
UNIT – II	**Periods: 8L+0T=8**
Quality Management in Hospital: Front Office; OPD; Casualty; Labs; OT; CSSD; IP; Nursing services; Emergency and Trauma care; Dietary; House Keeping; ICU; CCU; MRD; Laundry; Canteen; Hospital stores.	
UNIT – III	**Periods: 8L+0T=8**
Team work and Tools in TQM: TQM team work; Employee involvement; Key result areas; Leadership; TQM Tools; Quality Function Deployment (QFD); Concurrent engineering; FMEA; P-C-D-A Cycle; JIT (Just in Time); Kaizan; 'O' defect programme; Statistical Tools in TQM; Flow diagram; Pareto Analysis; Cause and effect diagram; Control Charts; Bench Marking; Business Process Reengineering; Six Sigma; Assessing Quality; Patient satisfaction survey; TQM practices in Indian Hospitals.	
UNIT – IV	**Periods: 8L+0T=8**
Organization and Roles in Quality: Quality Policy; Commitment to Patients and Staff; Code of Conduct for Health Professionals; Job Description of Quality Manager; Quality Steering Committee; Obstacles to the practice of Quality in Hospitals.	
UNIT – V	**Periods: 8L+0T=8**
Hospital Accreditation: Concept of Hospital Accreditation; ISO 2000 & 14000; NABL, NABH, JCI & JCAHO; Accreditations Scenario in India and abroad; Organizations and authorities for accreditations in India; Accreditation process; Role of the government in developing an accreditation system.	

Text & References:

- Principles of Hospital Administration and Planning, by B.M.Sakharkar published by : Jaypee Brothers, Medical Publishers (P) Ltd., New Delhi, 2010
- Sridhar Bhat, TOTAL QUALITY MANAGEMENT, Himalaya House pub., Mumbai, 2002
- Sundara Raju S.M., TOTAL QUALITY MANAGEMENT: A PRIMER, Tata McGraw Hill

Reference Books:

- D.D. Sharma, Text book of Quality Management
- Sakharkar, B. M., & Jaypee Brothers (Jaypeedigital). (2009). Principles of Hospital Administration & Planning. (Jaypee eBooks.) Jaypee Brothers Medical Publisher (P) Ltd.

Management Information Systems in Hospitals							
Course Code	Periods			Sessional Marks	End Exam Marks	Total Marks	Credits
	L	T	P				
23HA302	4	0		40	60	100	4

Course Objectives: The objective of this course is to make the students to understand MIS as a managerial decision making tool and to know the sources and compiling of MIS.

SYLLABUS

UNIT – I **Periods: 8L+0T=8**

Introduction to Management Information Systems: Information System Concept – Information Resource Management – Data and Information Management.
Management Information System – Evolution – MIS in Strategic Advantage – Systems Approach in Problem Solving – MIS in Decision Making – DBMS Models.

UNIT – II **Periods: 8L+0T=8**

Supporting Systems: Decision Supporting Systems – Data Mining for Decision Support – Sensitivity Analysis – Goal Seeking Analysis – What if Analysis – Optimization Analysis-Design and Implementation of a Hospital Management System.

UNIT – III **Periods: 8L+0T=8**

TELEMEDICINE: Telehealth - Historical perspectives – Types of Technology – Clinical initiatives – Administrative initiatives – Advantages and Barriers of telehealth – Future trends – Summary-The future of Informatics: Globalization of Information. Technology – Electronic communication – Knowledge management – Genomics – Advances in public health – Speech recognition – Wireless computing – Security – Telehealth – Informatics Education – Barriers to Information Technology implementation.

UNIT – IV **Periods: 8L+0T=8**

Software Applications in Health Care: Awareness on the application of computer software packages in Various functions of Hospital. Internet and Intranet and their application in healthcare.

UNIT – V **Periods: 8L+0T=8**

Hospital Information System: Introduction to HIS – Scope of HIS – Benefits of HIS – HIS Selection Criteria – Guide for Purchasing Software – Some Commonly Used Software: Tele health, HER/EMR: Clinical Decision Support System, Administrative Information System, health Information System – RFIO in healthcare.

Text & References:

- Gordon B. Davis and M.H. Olson, Management Information Systems – Conceptual foundations, structure and development, McGraw Hill Publishing, 1984.
- Erid Muford. Effective Systems design and requirements analysis, McGraw Hill, 1995.
- Mahadeo Jaiswal& Monika Mital, Management Information System, Oxford University Press, 2005.
- Rajesh Narang, Data Base Management System, Prentice-Hall India Private Limited, New Delhi, 2004.

Reference Books:

- Sadagopan.S, Management Information System, Prentice-Hall India Private Limited, New Delhi, 2004.
- Kenneth.C. Laudon & Jane P.Laudon, Management Information System Prentice-Hall India Private Limited, New Delhi, 2006.
- Jerome Kanter, Managing with Information, Prentice-Hall India Private Limited, New Delhi, 2004. 4th Edition.
- P. Weill & M. Broadbent "Leveraging the New Infrastructure: How Market Leaders Capitalize on IT" , Harvard Business School Press, May 1998

Operations Research							
Course Code	Periods			Sessional Marks	End Exam Marks	Total Marks	Credits
	L	T	P				
23HA303	4	0		40	60	100	4

Course Objectives: To make the students familiar with principles and techniques of Operations Research and their applications in decision-making.

SYLLABUS

UNIT – I	**Periods: 8L+0T=8**
Operations Research: Importance and Scope of Operations Research – Linear Programming – Graphic Method – Simplex Method – Big-M Method and Its Applications.	
UNIT – II	**Periods: 8L+0T=8**
Linear Programming: Transportation Problem- North West Corner Method - Least Cost Method. Assignment Problem – Hungarian method of solution.	
UNIT – III	**Periods: 8L+0T=8**
Replacement And Sequencing Models: Replacement policies - Replacement of items that deteriorate with time (value of money not changing with time) – Replacement of items that deteriorate with time (Value of money changing with time) – Replacement of items that fail suddenly (individual and group replacement policies). Sequencing models- n job on 2 machines – n jobs on 3 machines – n jobs on m machines, Traveling salesman problem.	
UNIT – IV	**Periods: 8L+0T=8**
Game theory: Optimal solution of two-person zero-sum games, the max-min and min-max principle. Games without saddle points, mixed strategies. dominance, graphical method. Queuing Theory – M/M/I and M/M/C Models. **Case study**: Apply queuing theory in hospital	
UNIT – V	**Periods: 8L+0T=8**
Project Management: Basic terminologies – Constructing a project network – Scheduling computations – PERT – CPM. **Inventory management:** Introduction-types of inventories-costs associated with inventories-concept of EOQ, deterministic inventory problems with no shortages, with shortages.	

Text & References:

- Mustafi, C.K. 1988. Operations Research Methods and Practices, Wiley Eastern Limited, New Delhi.
- Hamdy A Taha, 1999. Introduction to Operations Research, PHI Limited, New Delhi.

Reference Books:

- Peterson R and Silver, E. A. 1979. Decision Systems for Inventory Management and Production Planning.
- Levin, R and Kirkpatrick, C.A. 1978. Quantitative Approached to Management, Tata McGraw Hill, Kogakusha Ltd., International Student Edition.

WEB RESOURCES:

https://orc.mit.edu/
www.orsi.in/
https://www.journals.elsevier.com/european-journal-of-operational-research/

Introduction to Epidemiology and Biostatistics							
Course Code	Periods			Sessional Marks	End Exam Marks	Total Marks	Credits
	L	T	P				
23HA304 (A)	4	0		40	60	100	4

Course Objectives: The objective of the course is to attain enhanced knowledge in epidemiology and related bio statistical methods.

SYLLABUS

UNIT – I **Periods: 8L+0T=8**

Introduction - Health and Disease Concept-Aims and Approach of Epidemiology-Rates and Ratios-Measurement of Morbidity and Mortality-Methods of Generalization of Epidemiological measurements-Concepts of Experimental Epidemiological.

UNIT – II **Periods: 8L+0T=8**

Epidemiology of Communicable and Non communicable: Basic concepts of Communicable Diseases in terms of Host-Environment and Agent with focus on control and prevention including investigation and management of outbreak of diseases-their indicators and evaluation-Epidemiology of locally prevalent diseases-Viral diseases Dengue-Japanese Encephalitis(JE) -Chronic diseases Tuberculosis-Leprosy, HIV-Cardiovascular-Diabetes and Hypertension. (Their methods of measurement and evaluation)

UNIT – III **Periods: 8L+0T=8**

Introduction to Bio Statistics: Concepts of a Statistical Population and sample from a population-Data Collection: Primary and Secondary Data- Different types of scales - nominal, ordinal, ratio and interval.

UNIT – IV **Periods: 8L+0T=8**

Hypothesis: Null Hypothesis, Alternative Hypothesis-– Types of Error in Testing of Hypothesis - Hypothesis procedure Normal Distribution-Test of Hypothesis- -Large and Small Sample Tests-t, Z and Chi-square Tests-Analysis and Interpretation of Data.

UNIT – V **Periods: 8L+0T=8**

Data Analysis & Interpretation: Univariate Data Analysis, Bivariate Data Analysis: Regression Analysis - ANOVA: One Way, Two Way.

Text & References:

- DeeptiShyam Sunder (2019): Fundamentals of Epidemiology and Biostatistics, CBS Publishers & Distributors.
- Mac. Mohan & Pugh Epidemiology Principles and Methods, Little Brown & Co. Boston. U.S.A.
- Alan J. Silman : Epidemiological Studies, Cambridge University Press
- Apostol,T.M. (1985): Mathematical Analysis, Narosa Publishing House.
- Burkill, J. C. (1980): A First Course in Mathematical Analysis, Vikas Publishing House.

Reference Books:

- K. Park (2013):Parks's Textbook of Preventive and Social Medicine, BanarasidasBhanot Publishers, Jabalpur.
- Deshpande, J. V. (1981): Text Book of Mathematical Analysis, Tata McGraw Hill.
- Goldberg, R. R. (1970): Methods of Real Analysis, Oxford and IBH
- Khuri, A. I. (1983): Advanced Calculus with Applications in Statistics.

Epidemic & Disaster Management							
Course Code	Periods			Sessional Marks	End Exam Marks	Total Marks	Credits
	L	T	P				
23HA304 (B)	4	0		40	60	100	4

Course Objectives:

- To provide basic conceptual understanding of disasters and its relationships with development.
- To identify factors responsible for emergence and re-emergence of these infectious diseases and challenges faced in control/ prevention of these infections.

SYLLABUS

UNIT – I **Periods: 8L+0T=8**

Epidemic: Definition, classification of epidemics: Common source: Point-source Outbreak, continuous, Intermittent, Propagated, mixed source, History of Outbreaks, Epidemics & Pandemics, difference Between Epidemic and Pandemic. The Epidemic Diseases Act, 1897.

UNIT – II **Periods: 8L+0T=8**

Infection Control: Infection Control Practices – Hand washing, Decontamination Use of PPEs. Emerging and Re-emerging infections, early identification and control of new infections, Vaccination strategies including vaccine development & Implementation, Outbreak Management including Quarantine, Isolation, Contact Tracing, Surveillance.

UNIT – III **Periods: 8L+0T=8**

Disaster Management: Objective, basic concepts, disaster cycle; Classification of disasters; Disaster Process – Spectrum of disaster Management; Disaster management in India – National level, state Level; Principles of disaster Planning; Disaster and health problems; Organization of Medical Relief; Principles of Mass Casualty Management; Disaster Administration; Disaster Manual; Disaster Drill.

UNIT – IV **Periods: 8L+0T=8**

Disaster Preparedness: Aim, objectives and measures; Medical preparedness: Models. Phases and Use of Technology; Disaster Planobjectives, need, purpose, planning and implementation. Pre-Hospital and Hospital Components - Practical Arrangements.

UNIT – V **Periods: 8L+0T=8**

Disaster Risk Reduction Strategies: Disaster Cycle, Phases of Disaster, Preparedness Plans, Action Plans and Procedures, Early warning Systems Models in disaster preparedness, Components of Disaster Relief-(Water, food, sanitation, shelter, Health and Waste Management), Community based DRR, Structural non structural measures in DRR, Factors affecting Vulnerabilities, , Mainstreaming disaster risk reduction in development, Undertaking risk and vulnerability assessments, Policies for Disaster Preparedness Programs.

Text & References:

- Zumla A, Hui DS, (eds). Emerging and Re-Emerging Infectious Diseases, An Issue of Infectious Disease Clinics of North America E-Book. Elsevier Health Sciences; 2019 Nov 2
- Ray. Suresh. (2010). Nurses role in disaster management. CBS publishers.
- Mehta A, Culley C, (2016). Emergency medicine. Jaypee Brothers Medical publishers.
- Goldschmitt D, Bonvino R, (2009). Medical disaster response, CRC press.

Reference Books:

- Lessler J, Orenstein WA. The Many Faces of Emerging and Re-emerging Infectious Disease. Epidemiologic reviews. 2019 Nov 4.
- Dhawan N, Khan AS, (2012). Disaster management & Preparedness CBS Publications
- Sonopant. G. (2012). Disaster Management for Healthcare professionol.Jp Medical.

WEB RESOURCES:

https://www.who.int/immunization/newsroom/vaccine_PI/en/

Enterprise Recourse Planning for Hospitals							
Course Code	Periods			Sessional Marks	End Exam Marks	Total Marks	Credits
	L	T	P				
23HA305 (A)	4	0		40	60	100	4

Course Objectives: The course has been designed to dwell on the basic concepts of ERP systems and their application to manage all the processes and data records of the hospital.

SYLLABUS

UNIT - I **Periods: 8L+0T=8**

Introduction - Overview of enterprise systems – Evolution - Risks and benefits - Fundamental technology - Issues to be consider in planning design and implementation of cross functional integrated ERP systems

UNIT - II **Periods: 8L+0T=8**

ERP Solutions and Functional Modules - Overview of ERP software solutions Small medium and large enterprise vendor solutions, BPR, Business Engineering and best Business practices - Business process Management. Overview of ERP Business Modules – Finance – Manufacturing – Human Resources – Plant maintenance –Materials Management – Quality management – Marketing – Sales, Distribution and service.

UNIT - III **Periods: 8L+0T=8**

ERP Implementation - Planning Evaluation and selection of ERP systems Implementation life cycle - ERP implementation, Methodology and Frame work- Training – Data Migration. People Organization in implementation- Consultants, Vendors and Employees.

UNIT - IV **Periods: 8L+0T=8**

Post Implementation - Maintenance of ERP- Organizational and Industrial impact; Success and Failure factors of and ERP Implementation.

UNIT - V **Periods: 8L+0T=8**

Emerging Trends on ERP - Extended ERP systems and ERP add–ons - CRM, SCM, Business analytics etc - Future trends in ERP systems-web enabled, Wireless technologies so on.

Text & References:

- Jaiswal, M. and Vanapalli, G. (2005). Text Book of Enterprise Resource Planning, 1st Edition, Macmillan India Ltd.
- Alexis Leon, Enterprise Resource Planning, second edition, Tata McGraw-Hill, 2008.
- Summer, ERP, Pearson Education, 2008.
- Motiwalla, L. and Thompson, J. (2013). Enterprise Systems for Management, 2nd Edition, Pearson Education.

Reference Books:

- Jagan Nathan Vaman, ERP in Practice, Tata McGraw-Hill, 2008
- Leon, A. (2008). ERP Demystified, 2nd Edition, Tata McGraw Hill, 2nd edition
- Vinod Kumar Grag and N.K. Venkita krishnan, ERP- Concepts and Practice, Prentice Hall of India,2nd edition, 2006.

Intellectual Property Rights							
Course Code	Periods			Sessional Marks	End Exam Marks	Total Marks	Credits
	L	T	P				
23HA305 (B)	4	0		40	60	100	4

Course Objectives: The main objective of the course is to educate the pupils on basic concepts of Intellectual Property Rights and to learn the procedure of obtaining Patents, Copyrights, Trade Marks &Industrial Design.

SYLLABUS

UNIT – I **Periods: 8L+0T=8**

Introduction to IPR: Importance of human creativity and its recognition and protection-Concepts of Property and Rights-History of IPRs-Different forms of IPRs-Role of IPRs in R and D.
Patents: Meaning of Patent-Object and Value of Patent law-Advantages of Patent to the invertors-Criteria for Patent ability-Software and Business Methods Patents-Govt. use of inventions-infringement of Patent - remedies for infringement-Compulsory license.

UNIT – II **Periods: 8L+0T=8**

Patent Drafting: Scope of invention-definitions-types of specification-descriptions, drawing, claim drafting and improvement-Filing Requirement of patent-Work flow chart in obtaining Patents-Forms to be submitted- assignment requirements-filing mechanism through Individual patent office and PCT route-Importance of PTC-claiming priority from either route-Request for re -examination and revocation-Term of Patent and Patent renewal-Searching of Prior art: Prior art- Tangible versus Intangible prior art-Search strategy.

UNIT – III **Periods: 8L+0T=8**

Trade-Marks: Meaning-functions of Trade Marks- Concept of Distinctiveness-Trade Marks registration-Trade Marks- Challenges in Non- Conventional Marks-Infringement of Trade Marks and remedies for infringement-Domain Names disputes -Well-Known Marks-Distinction between Trade names-Trade marks.

UNIT – IV **Periods: 8L+0T=8**

Copyright: Introduction-Nature of Copyright-Subject-matter-protection requirement in Copyright Law-Neighboring/Related Rights-Economic and Moral Rights of Authors-Copyright in the Digital Context-An overview of Copyright protection in India-Transfer of Copyright-Infringement of Copyright-Copyright-fair dealing and remedies-Comparison with Patent and Copyright.

UNIT – V **Periods: 8L+0T=8**

Confidential Information and Trade Secrets: Introduction-Conditions of protection-Essentials for an action for breach of confidence-distinction between Confidential Information-General Information-Data protection laws in India-Cyber-Crimes under the IT Act.2000.

Text & References:

- Nithyananda, K.V. 2019. Intellectual Property Rights: Protection and Management. India, In: Cengage Learning India Private Limited.
- Neeraj, P. and Khusdeep, D. 2014. Intellectual Property Rights. India, In: PHI learning Private Limited.
- Ahuja, V.K. 2017. Law relating to Intellectual Property Rights. India, In: Lexis Nexis.

Reference Books:

- P.Naryan, "Intellectual Property Law", 3rd Ed,Easern Law House, 2007.
- Dr. S.R.Myneni, "Law of Intellectual Property", 9th Ed, Asia law House, 2019.

Hospital Innovations, Technology & Artificial Intelligence							
Course Code	Periods			Sessional Marks	End Exam Marks	Total Marks	Credits
	L	T	P				
23HA401	4	0		40	60	100	4

Course Objective: To familiarize the students in drug management in hospitals and also with the management of equipment in hospitals in the application of technology in health care

SYLLABUS

UNIT – I **Periods: 8L+0T=8**

Healthcare Innovation in life sciences:

Healthcare technology from a business perceptive – micro and macro- economy views overview of main advances in technology in the last century and their impact on social welfare the pharmaceutical sector – the biotechnology sector – the medical device sector, the dynamic of technological evaluation and capital market ingenuity – mergers, acquisitions and the advantages of scale in the pharmaceutical sector.

UNIT - II **Periods: 8L+0T=8**

Concepts and issues related to healthcare technology:

Introduction-problems and constraints associated with healthcare technology- present trends in healthcare technology- hospitals and technology- dealing with technological problems. Planning and adopting appropriate technology in healthcare – mechanism to ensure appropriate use of healthcare technologies – developing sources of information on hospital technology- medical communications to doctors – evolutions methods of health technology.

UNIT - III **Periods: 8L+0T=8**

Application of technology in different health care units: Application in diagnostic service areas (radiology, lab services etc.)- clinical services areas (nephrology, urology, cardiology, etc.)-therapeutic services- patient support areas- tele medicine – PACS –RFID- paperless hospitals- biomedical informatics – artificial intelligence and robotics in health care- factors affecting the growth of new medical technology.

UNIT - IV **Periods: 8L+0T=8**

Modern Healthcare Innovations: Innovation-process and product performance, engineering entrepreneurship, smart hospitals, tele health innovations, consumer health informatics, mobile health apps, value in health management focus on long-term care industry.

UNIT - V **Periods: 8L+0T=8**

Introduction to Artificial Intelligence: Definition and scope of AI-Basics of Digital Data – Health records - Differentiating AI from human intelligence- Applications of AI- AI in healthcare: Diagnosis, treatment, and medical imaging- AI and creativity: Generative models and artistic applications.

Text & References:

- Hoyt, R., & Hersh, W. (2018). Health Informatics: Practical Guide, 7th edition. lulu.com
- Larry Keeley, Helen Walters, Ryan Pikkel, Brian Quinn. Ten Types of Innovation: The Discipline of Building Breakthroughs, Wiley, April 2013.
- McCarthy J, Minsky ML, Rochester N, Shannon CE. A Proposal for the Dartmouth Summer Research Project on Artificial Intelligence. 1956.

References Books:

- Russell S, Norvig P. Artificial Intelligence: A Modern Approach. 4th ed. Pearson; 2021.
- Sittig&Ash, Clinical Information Systems – Overcoming Adverse Consequences, Jones & Bartlett Learning Publishers, 2009.
- Edward H. Shortliffe; Leslie E. Perreault, Medical Informatics – Computer Applications in Healthcare and Biomedicine, Springer-Verlag New York Inc.Publishers, 2014.

Entrepreneurship & Consultancy in Health Care							
Course Code	Periods			Sessional Marks	End Exam Marks	Total Marks	Credits
	L	T	P				
23HA402	4	0		40	60	100	4

Course Objectives: To create interest in students to start a venture, learn the intricacies of starting as enterprise, identifying opportunities, inculcating enterprising values with orientation towards setting up own enterprises and equip the student to take up consultancy work in various facets of hospital management.

SYLLABUS

UNIT – I	**Periods: 8L+0T=8**

Overview: Definition and Meaning of Entrepreneurship-Characteristics and Function of Entrepreneur-Importance-Limitations of Entrepreneurship-Entrepreneurial Laboratory-Types of Entrepreneurs Entrepreneurship Games Innovation and Entrepreneurship.

Idea Generation: Brain Storming in terms for Project Ideas-Normal Group Technique-Creativity. Lateral Thinking-Research & Development-Reverse Engineering IPR-Patenting-Environment Scanning Opportunities in Health care-NGO Collaboration.

UNIT – II	**Periods: 8L+0T=8**

Operational Feasibility: Technical Feasibility-Market Feasibility-Financial Feasibility-Economic Forecasting Project Report Writing-Support Systems for New Enterprise Creation-New Enterprise Identification and Selection Enterprise Establishment and Management.

UNIT – III	**Periods: 8L+0T=8**

Sources of Funds: Short Term Sources-Instruments – Long term Sources – Instruments – Sources – Commercial Banks, Development Agencies. Indian and International Funding Organizations Capita Market Venture and Startup Capital.

UNIT – IV	**Periods: 8L+0T=8**

Consultation: Consulting industry with specific reference to hospital and Health care Consulting Perspective. Professionalism & Ethics inConsulting Consultant – Client Relationship, Behavioral roles of consultants.

UNIT – V	**Periods: 8L+0T=8**

Entry: Initial Contracts – Preliminary Problem Diagnosis – Terms and Reference – Assignment Strategy and Plan – Proposalto the Clint – Consulting Contract.

Diagnosis: Conceptual Frame work of Diagnosis – Diagnosing Purpose and Problem - Defining Necessary Facts – Sources and Ways of Obtaining Facts – Data Analysis – Feedback.

Action Planning: Possible Solutions – Evaluating Alternatives – Presentation of Action. Implementation & Termination:Consulting in Various Areas of Health care Management.

Text & References:

- J.B.Patel and D.G.Allampally, A Manual on How to Prepare a Project Report, Entrepreneurship Development Ir.stitute, Ahmedabad.
- Holt H. David, Entrepreneurship, Prentice Hall India Publishers, New Delhi 2001 Anil Kumar S.,

Entreneurship Development, New Age Publications, New Delhi, 2003

Reference Books:

- The Journal of Entrepreneurship, Entrepreneurship Development Institute, Ahmedabad. Management consulting:Milan kubr (A guide to the profession (3rd revised edition) published by ILO.
- Edward Bono, Lateral Thinking, Penguin Books, London 1990.

Hospital Waste Management							
Course Code	Periods			Sessional Marks	End Exam Marks	Total Marks	Credits
	L	T	P				
23HA403 (A)	4	0		40	60	100	4

Course Objectives: The objective of this course is to gain an overall understanding on Health care waste management including types of waste generation, classification, segregation, storage, transportation and treatment methods.

SYLLABUS

UNIT – I **Periods: 8L+0T=8**

Hospital Waste: Definition-Classification-Categories-Sources- Routes-Associated Diseases- Risks, Control of Hazards-Associated Problems in India-Need-Objective and importance of Bio Medical Waste - Management Programme in Health Care Facilities-Steps in Management of BMW.

UNIT – II **Periods: 8L+0T=8**

Control of Hospital Acquired Infection: Types of Infection-Common Nosocomial Infection and their Causative Agents-Prevention of Hospital Acquired Infection-Role of Central Sterile Supply Department-Infection Control Committee-Monitoring and Control or Cross-Infection-Staff Health.

UNIT – III **Periods: 8L+0T=8**

Biomedical Waste Management: Meaning-categories of Biomedical wastes-Disposal of biomedical waste products-Incineration and its importance-Standards for Waste Autoclaving-Micro Waving and Deep Burial-Segregation-packaging-transportation and storage.

UNIT – IV **Periods: 8L+0T=8**

Human Waste Disposal and Sewage Disposal: Diseases carried from excreta-Sanitation barrier-Methods of Excreta disposal-Sewage wastes-Meaning, composition-Aims of Sewage disposal- Decomposition of Organic Matter-Modern Sewage Treatment-Drawbacks of improper disposal of wastes-Solid and liquid waste disposal.

UNIT – V **Periods: 8L+0T=8**

Safety and Protective Measure: Principles of Safe Handling-Personal Protective Devices and other Protective Measures-Occupational Safety-Training for Doctors-Nurses-Nodal Officers and Waste Management Analyzers.

Text & References:

- Singh, Anant. Preet&Kaur. Sukhjit.(2012). Bio-medical waste disposal. Jaypee Brothers Medical Publishers.
- Bahera. P.K. (2009). Sustainable bio-medical waste management. Dominant Publishers & Distributors.
- Sharma – Holistic approach to Hospital Waste Management published by Dept. of Hospital Administration – AIIMS, New Delhi, 2006

Reference Books:

- Tweedy, James T., Healthcare hazard control and safety management-CRC Press Taylor and Francis (2014).
- Anantpreet Singh, Sukhjit Kaur, Biomedical Waste Disposal, Jaypee Brothers Medical Publishers (P) Ltd (2012)
- V.J. Landrum, ―Medical Waste Management and disposal‖, Elsevier, 1991

Hospital Hazards & Health Care Risk Management							
Course Code	Periods			Sessional Marks	End Exam Marks	Total Marks	Credits
	L	T	P				
23HA403 (B)	4	0		40	60	100	4

Course Objectives: The main objective of the course is to provide the hazardous materials in hospitals and their health impacts, as well as various waste disposal and management procedures and development of health care risk management, the role of the health care risk manager.

SYLLABUS

UNIT – I **Periods: 8L+0T=8**

Hospital Hazards: Meaning-types-physical, biological, mechanical and psychological -their impact on employees-Preventive measure-Hospital Hazards Management-meaning, need, principles and purpose-Universal precautions for health care workers.

UNIT – II **Periods: 8L+0T=8**

Fire Hazards: Fire Hazard Triangle-Causes of Hospital Fires-Fire Protection – Structure Planning and Design Consideration-Central Air - conditioning Facilities-Electric Installation-Water supply - fire points and Escape routes-Fuel Store-Manual Call Points-Means of Escape-Risk evaluation.

UNIT – III **Periods: 8L+0T=8**

Radiation Hazards: Biological effects of radiation hazards-Diagnostic Imaging-Radiation 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-Radiation Protection Facility-Radioactive Waste.

UNIT – IV **Periods: 8L+0T=8**

Essentials in Health Care Risk Management: Risk Management – Role of Risk Management in Health Care Industry – Risk Identification – Risk Analysis – Risk Control – Risk Financing – ERM into Practice.

UNIT – V **Periods: 8L+0T=8**

Applications in Health Care Risk Management: Enterprise Risk Management – Health Care Exposure – Risk Trending and Analysis.
Risk Financing – Risk Transfering.

Text & References:

- **Tweedy, James T., Healthcare hazard control and safety management-CRC Press_Taylorand Francis (2014).**
- **Anantpreet Singh, Sukhjit Kaur, Biomedical Waste Disposal, Jaypee Brothers MedicalPublishers (P) Ltd (2012)**
- Risk Management Handbook for Health Care Organizations, Student Edition: ISBN: 978-470-30017-6
- Morse, Michael A., et al. Complete Healthcare Compliance Manual. Society of Corporate Compliance and Ethics & Health Care Compliance Association.
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Reference Books:

- Park k - Text book on hygiene and preventive medicine, BanarsidasBhanot.
- First aid manual - accident and emergency, vora medical publication.
- ● Enterprise Risk Management: Implementing ERM, ASHRM 2020, https://www.ashrm.org/system/files/media/file/2020/12/ERM-Implementing-ERM-forSucecess-White-Paper_FINAL.pdf