SYLLABUS

Bachelor of Business Administration (Hospital Management)

BBAHM

UNDER CURRICULUM AND CREDIT FRAMEWORK

KAZI NAZRUL UNIVERSITYASANSOL, WEST BENGAL

With effect from 2023-2024 Academic Session

Syllabus of Bachelor of Business Administration (Hospital Management)

Semester- I

Syllabus of Bachelor of Business Administration (Hospital Management)

BBA (Hospital Management)

Course Title	CourseType	(L-T-P)	Credit	Marks
Hospital Operation Management-I	MAJOR	4-1-0	5	100
Principles of Management & Organizational Behaviour	MINOR	4-1-0	5	100
E-Commerce	MD	3-0-0	3	50
English/ MIL	AEC	4-0-0	4	50
Computer Fundamentals, IOT, and AI	SEC	2-1-0	3	50
SEMESTER TOTAL			20	350

Course Name: Hospital Operation Management-I

Course Code: BBAHMMJ101

Course Type: MAJOR	Course Details: MJC-1			L-T-P: 4-1-0	
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		0	30	0	70

Course Objective: This subject focuses on the basic operational procedures, organizational structure, regular issues, and related strategies to solve problems for a hospital organization in the modern world. Students will learn and embed the skills requires for managing a modern hospital with multiple beds and services.

Learning Outcome: After completion of the course learners can

1. Define hospital; relate hospital as an organization in different social structures.

2. Learn hospital organization, hierarchy, and relationship matrix as a complex organization.

3. Understand hospital day-to-day operational issues, managerial issues, and leadership functions in various departments including value addition to the community.

4. Evaluate the hospital organization through internal and external environmental analysis and effective uses of strategies at different levels of the hospital organization.

5. Overall ability to discuss and critically evaluate the mission, vision, and goal statements of any organization.

Unit 1. Concept and Definition of Health, Dimensions of health, Concept of Well-being- Quality of health, Spectrum of health, Determinants of Health, Right to health and responsibility for health, Indicators of health- mortality, morbidity, disability, nutritional status, healthcare delivery, utilization rate, social and mental health, environmental, socio-economic, health policy, quality of life indicators; Primary healthcare and declaration of Alma Ata, Health for all.

Unit 2. Hospital: Definition, the role of the hospital in healthcare, hospital as a system, as a social system; Types of hospitals; History of hospitals, history of hospitals in India; Hospital and community relationship. Primary, Secondary, Tertiary, and Quaternary healthcare services. Definition of Health and Concept of Health.

Unit 3. Hospital as an organization- overview, managerial hierarchy, different organizational structure of hospitals; role of a hospital manager in different managerial levels; Governing body and different hospital committees; Concept and issues in the management of hospitals in India; different organizational issues in hospital; Value chain system.

Unit 4. Strategic management- definition, the process of strategic management, Strategic intent- Mission, Vision, Goal, Philosophy; Environmental analysis: SWOT analysis, PESTEL Analysis, Porter's 5 forces model.

Unit 5. Level of strategies: Corporate level- Portfolio Analysis, BCG, GE-McKinsey; Strategic Business Units- Generic business strategies, Functional level.
Strategic evaluation- Balance scorecard, Benchmarking.

Suggested Readings:

1. Principles of Hospital Administration and Planning- BM Sakharkar, JAYPEE, 2nd Edition.

2. Managing a Modern Hospital- Edited by A.V. Srinivasan, Response SAGE Publication, 2nd Edition.

3. Hospital Administration- DC Joshi and Mamta Joshi, JAYPEE

4. Hospital Management- Text and Cases- K.V. Ramani- PEARSON

5. Strategic Management- An Integrated Approach- Charles W. L. Hill and Gareth R. Jones, CENGAGE Learning, 9th Edition.

6. Strategic Management: The Indian Context- R. Srinivasan, Prentice Hall India Learning Private Limited.

Teaching-Learning Process:

The teaching-learning process may be interactive classroom sessions with the help of PowerPoint presentations, reflective assessments, and case study discussions to ensure active participation and continuous learning.

Assessment Methods:

Internal Examinations (30 marks): Internal assessment may be conducted by using any one or in combinations of Class participation, Presentation, Project writing, Case studies, Assignments, and Surprise tests as suitable.

External Examination (70 Marks): End Semester Written Examination, duration 4 hours.

Course Name: Principles of Management & Organizational Behaviour

Course Code: BBAHMMN101

Course Type: MINOR	Course Details: MNC-1			L-T-P: 4-1-0	
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		0	30	0	70

Course Objective: The objective of the "Principles of Management & Organizational Behaviour" course is to provide students with a foundational understanding of management principles and the dynamics of organizational behavior. The course aims to equip students with essential knowledge, skills, and insights to effectively manage people, resources, and processes in various organizational settings.

Learning Outcome: After completing the course, the student shall be able to:

1. Understand the evolution of management and apprehend its effect on future managers.
2. Analyze how organizations adapt to an uncertain environment and decipher decision-making techniques managers use to influence and control the internal environment.
3. Comprehend the changes happening in organization structure over time.
4. Analyze the relationship amongst functions of management i.e. planning, organizing,directing, and controlling.
5. Appreciate the changing dynamics of management practice.
6. Develop an understanding of different approaches to designing organizational structures.
7. Understand the role of personality, learning, and emotions at work.
8. Discover and understand the concept of motivation, leadership, power, and conflict.
9. Understand the foundations of group behavior and the framework for organizational changeand development.

Unit 1: Nature, Scope and Process of Management: Concept of Management, Role and Importance of Management, Functions and Levels of Management, Management – A Science and an Art; Evolution of Management Thought: Early Contributors to Management Thoughts; Scientific Management, Administrative Theory of Management.

Unit 2: Planning and Organizing: Features of Planning, Importance, Steps, Types. Decision-making; Formal and Informal Organizations, Organization Structure: Line and staff, Delegation

of Authority, Centralization and decentralization, Departmentalization: Concept and Types, Span of Management.

Unit 3: Leadership, Coordination and Control: Leadership, Functions and Importance, Qualities of a Good Leader, Leadership Styles. Concept and features of Coordination, Nature of Control, Relationship between Planning and Control, Elements of control system.

Unit 4: Introduction to Organisational Behaviour: Concept, Learning objectives, Challenges and Opportunities of Organisational Behaviour (OB), Issues in Developing an OB Model; Characteristics of Human Behaviour.

Unit 5: Personality, Perception, Motivation & Group Dynamics: Personality: Concept and Types, Major determinants. MBTI, Type-A and Type- B Theory; Perception: Concept, Factors influencing Perception; Learning: Concept; Attitude: Concept, Different Job Attitudes; Motivation: Concept, Basic Theories of Motivation (Maslow, Herzberg, McClelland and McGregor); Group Dynamics: Concept of group, Stages of Group Development, Types of Groups, Work Teams Vs. Work Groups, Group Synergy.

Suggested Readings:

1. Management: Theory and Practice- C.B. Gupta, Sultan Chand and Sons Educational Publishers.
2. Principles and Practice of Management- Dr. L.M. Prasad, Sultan Chand and Sons Educational Publishers, 6th Edition.
3. Principles of Hospital Administration and Planning- BM Sakharkar, JAYPEE, 2nd Edition.
4. Management Case Studies: A student's Handbook- R.K. Yaraddi, Dr. R. R Kulkarni, Dr. S.R.Patil, R.R Navalagi, Notion Press, 1st Edition.
5. Essentials of Management: Weihrich and Koontz, et al, Tata McGraw Hill.
6. Management: Stoner J and Freeman RE, Prentice-Hall.
7. Management: Daft, RL, Thomson.
8. Organizational Behaviour- Stephen P. Robbins, Timothy A. Judge, Neharika Vohra, Pearson, 18th Edition
9. Managing Organizational Behaviour- Dr. V.S.P Rao, V. Sudeepa, Laxmi Publication Pvt Ltd, 3rd Edition.
10. Management of Organizational behavior – Harsey, Paul & Kenneth H. Blancher; PHI.
11. Organizational Behaviour: Human Behaviour at Work - Davis and Newstrom, TataMcGraw-Hill.

Teaching-Learning Process:

The teaching-learning process may be interactive classroom sessions with the help of PowerPoint presentations, reflective assessments, and case study discussions to ensure active participation and continuous learning.

Assessment Methods:

Internal Examinations (30 marks): Internal assessment may be conducted by using any one or in combinations of Class participation, Presentation, Project writing, Case studies, Assignments, and Surprise tests as suitable.

External Examination (70 Marks): End Semester Written Examination, duration 4 hours.

Course Name: E-Commerce

Course Code: MDC102

Course Type: Multi-Dimensional	Course Details: MDC-1			L-T-P: 2-1-0	
Credit: 3	Full Marks: 50	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		0	15	0	35

Course Objectives

The purpose of this course is provide an introduction to e-commerce for business and management. It willalso help to understand the complexity of e-commerce and its many facets. Students will learn how e- business and e-commerce fit together. Also they will be able to identify the impact of e-commerce and recognise the benefits and limitations of e-commerce.

Learning Outcomes

After completing the course, the student shall be able to:

1. Identify the component parts of e-commerce.
2. Identify the benefits of selling online.
3. Know how to optimise and stay safe when selling online.
4. Understand the risks around Cyber Security when trading and doing business online.
5. Understand the basic concepts and technologies used in the field of management information systems.
6. Understand the processes of developing and implementing information systems.
7. Be aware of the ethical, social, and security issues of information systems.

Unit-I: Introduction: E-Commerce-meaning, nature, concepts, types; e-commerce business models B2B [concept, major activities, types of B to B market (independent, buyer oriented,

supplier oriented, e-market place)], B2C [portals, e-tailer, content provider, transaction broker, real life examples of B2C], C2C, C2B, etc.; forces behind e- commerce, e-Governance [meaning, types, significance, real life examples].

Unit-II: E-CRM and SCM: E-CRM-definition, features, goals of E-CRM business framework, phases of E-CRM, types of E-CRM, Functional components of E-CRM, strategies for E-CRM solutions; SCM-definition, features, types of supply chain.

Unit-III: Digital Payment: Methods of e-payments [Debit Card, Credit Card, Smart Cards, e-Money], electronic ordigital wallet, digital signature (procedures, working and legal provisions), payment gateways [Core Banking Solution or CBS, Mobile Payment, UPI, NCPI, International Payments], Online banking [meaning, concepts, importance, electronic fund transfer, automated clearing house, automated ledger posting], risks involved in e- payments.

Unit-IV: ERP: Definition, features, major characteristics, levels of ERP, benefits of ERP, enterprise potential of ERP, modules of ERP, phases of ERP implementation, limitations of ERP.

Unit-V: New Trends in E-Commerce: Social Commerce-concept, definition, features; Digital Marketing- definition, objectives, methods, limitations; Advertisement in Social Media-objectives, advantages and disadvantages, procedures.

Suggested Readings:

1. P. T. Joseph, E-Commerce: An Indian Perspective, PHI Learning
2. Henry Chan, Raymond Lee, Tharam Dillon, Elizabeth Chang, E Commerce: Fundamentals and Applications, Wiley.
3. Laudon, E-Commerce, Pearson Education India
4. Schneider G., E-Business, Cengage
5. Bhaskar, B., E–Commerce, McGraw Hill

Teaching Learning Process

Teaching learning process may be interactive classroom sessions. It includes theoretical discussion and numerical problems solving.

Assessment Methods

Internal Examination (15 Marks): Internal Assessment may be conducted by using any one or in combinations of Class participation, Presentation, Project Writing and Presentation, Assignment and Presentation, Surprise Test as suitable.

External Examination (35 Marks): End Semester Written Examination, Duration 4 Hours

Course Name: English/ MIL Communication

Course Code: AECE101

Course Type: Ability Enhancement Compulsory Course	Course Details: AEC-1			L-T-P: 4-0-0	
Credit: 4	Full Marks: 50	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		0	15	0	35

Course Name: Computer Fundamentals, IoT, and AI

Course Code: BBAHMSE101

Course Type: Skill Enhancement Course	Course Details: SEC-1			L-T-P: 2-1-0	
Credit: 3	Full Marks: 50	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		0	15	0	35

Course Objective:

Computer fundamentals are an essential part of learning, everyone should know to operate computers. It gives students an in-depth understanding of the use of computers in business, society, and education. The introduction of computing devices, reinforcement of computer vocabulary,

computer hardware and software, the internet, networking, and mobile computing. Provides hands-on training on Microsoft Office applications- mainly on Word, Excel, and PowerPoint, and enhancement of advanced skills. The effect of technology (AI) on society and its operations is varied. Healthcare workers that are knowledgeable about AI are needed to enable interactive and illustrative AI and assure the caliber of AI-based systems to boost patient safety. For those involved in decision-making, purchasing, and implementing AI-based systems, knowledge of AI is also crucial. The course gives an introduction to artificial intelligence (AI) and its use in the healthcare industry.

Learning Outcomes

1. Describe the usage of computers and why computers are essential components in business and society, utilize the Internet Web resources and evaluate online e-business systems.
2. Solve common business problems using appropriate Information Technology applications and systems.
3. Identify categories of programs, system software, and applications. Organize and work with files and folders, describe various types of networks network standards, and communication software.
4. Internet of Things (IoT) applications in day-to-day activities, Medical IoT applications.
5. An idea on IoT uses in hospital operations, patient satisfaction, and continuous monitoring for diagnosis, treatment, and effective utilization of resources.
6. Describe several AI techniques, including their advantages and disadvantages, for the creation of AI applications in healthcare, and compare and choose the most appropriate AI techniques.
7. Reason about legal conditions and ethical challenges in AI, think about the challenges and motivating elements for using AI-based solutions in the healthcare industry.

Unit 1. **Introduction to Computer:** Computer Characteristics, Concept of Hardware, Software, Evolution of Computer and Generations, Types of Computer – Analog and Digital Computers, Hybrid Computers, General Purpose, and Special Purpose Computer, Limitations of Computer Applications of Computer in Various Fields.
Structure and Working of Computer: Functional Block Diagram of Computer. CPU, ALU, Memory Unit, Bus Structure of Digital Computer – Address, Data, and Control Bus.
Input/Output Devices: Input Device – Keyboard, Mouse, Scanner, MICR, OMR. Output Devices – VDU, Printers-Dot Matrix, Daisy-wheel, Inkjet, Laser, Line Printers, and Plotters.

Unit 2. Computer Memory: Memory Concept, Memory Cell, Memory Organisation, Semiconductor Memory – RAM, ROM, PROM, EPROM, Secondary Storage Devices – Magnetic Tape, Magnetic Disk (Floppy Disk and Hard Disk.), Compact Disk.
Computer Language and Software: Algorithm, Flowcharts, Machine Language, Assembly Language, High-Level Language, Assembler, Compiler, Interpreter. Characteristics of Good Language. Software – System and Application Software.

Operating System: Operating System, Evolution of Operating System. Functions of Operating System. Types of Operating Systems. Detailed Study of Windows Operating System. Introduction and Features of LINUX OS.

Unit 3. Introduction to IoT: IOT concepts, IoT Standards, Components of IoT, Relevance of IoT for the future, IoT Applications in Health care system, Challenges in IoT implementation.
Cloud Platforms for IoT: Virtualization concepts and Cloud Architecture, Cloud computing, benefits, Cloud services — SaaS, PaaS, IaaS, Cloud providers & offerings, Study of IoT Cloud platforms.

Unit 4. Introduction to AI: Definition, Advantages of AI, Application areas of AI, Brief history of AI, Supervised, Un-supervised, and Semi-supervised learning, Introduction to pandas, Data visualization with pandas, Neural network, ANN, Applications of ANN, Deep learning, Pattern recognition, Interactive process mining.
Use of ChatGPT, Google Bard, Grammarly, QuillBot, Slide-making AI, AI for documents, Canva, Chat Bot, etc.

Unit 5. IoT &AI in Healthcare: Use of IoT in the healthcare field, the introduction of WSN, RFID, Ambient Assisted Living (AAM), Adverse Drug Reaction (ADR), Embedded Context Prediction (ECP), Wearable Device Access (WDA), Sematic Medical Access (SMA), Smart Dust in brief in the healthcare context.
AI for medical image analysis and imaging, AI for data analysis and data mining, Future applications and techniques, and Ethical and data protection issues in AI-based solutions.
Project: Breast cancer detection project, Diagnosing Coronary Artery Disease Project.

Unit 6. Microsoft Office: Document, Excel, PowerPoint- principles, and practices for the professional world; AI tools integrated with Microsoft-Office- popular Practices.

Suggested Readings

1. **Healthcare and Artificial Intelligence**, Published by: Cédric Villani, Bernard Nordlinger, and Daniela Rus, 2020, ISBN: 3030321606, Springer.
2. **Artificial Intelligence in Healthcare;** edited by Adam Bohr & KavehMemarzadeh, Published by Academic Press, 2020, ISBN: 0128184388.
3. **Artificial Intelligence in Healthcare;** authored & published by: Parag Suresh Mahajan, 2nd Edition, 2019, ISBN: 9353115574.
4. Machine Learning and the Internet of Medical Things in Healthcare, edited by Krishna Kant Singh, Mohamed Elhoseni, AkanshaSinga, Ahmed A. Elngar, 2021, Published by Academic Press, ISBN- 978-0-12-821229-5, https://doi.org/10.1016/C2019-0-03077-4
5. Deep Learning and IoT in Healthcare Systems: Paradigms and Applications edited by Krishna Kant Singh, Akansha Singh, Jenn-Wei Lin, Ahmed A. Elngar, 1st Edition, 2021,

Published by Apple Academic Press (Taylor & Francis), ebook ISBN: 9781003055082https://doi.org/10.1201/9781003055082

6. A Guide to Artificial Intelligence in Healthcare by Dr. BertalanMeskó, 2019, The Medical Futurist.
7. Internet of Things and its Applications by Prof. Satish Jain & Shashi Singh, 2020, BPB Publications.
8. Fundamentals of Computers by Er. Meera Goyal & Sushil Kumar Maurya, 2021, SBPD Publishers.
9. Fundamental of Computers by Prof. Sarita Dhawale&Thankur Akash Ashok, ISBN: 978-81-932613-1-6, Thakur Publications Pvt. Ltd., Pune.
10. Advance Excel 2019 Training Guide: Tips and Tricks To Quick Start Your Excel Skills by Manish Nigam, 2019, BPB Publishers.
11. Microsoft Office 2019 for Dummies by Wallace Wang, 2018, Wiley.
12. BPB's Computer Course Windows 10 with MS Office 2016 by Prof. Satish Jain, 2018, BPB Publishers.

TeachingLearningProcess

The teaching-learning process may be interactive classroom sessions with the help of PowerPoint presentations, reflective assessments, and case study discussions to ensure active participation and continuous learning.

AssessmentMethods

Internal Examination (15 Marks): Internal Assessment may be conducted by using any one orincombinationsofClassparticipation, Presentation, ProjectWriting, Presentation, Assignment, Presentation, or Surprise Test as suitable.

ExternalExamination (35Marks): End Semester Written Examination, Duration: 2 Hours.

Semester- II

Syllabus of Bachelor of Business Administration (Hospital Management)

BBA (Hospital Management)

Course Title	CourseType	(L-T-P)	Credit	Marks
Medical Terminology	MAJOR	4-1-0	5	100
Bio-Statistics	MINOR	4-1-0	5	100
Nutrition and Public Health	MD	3-0-0	3	50
Environment Studies	VAC	4-0-0	4	50
Diagnostic Techniques in Healthcare	SEC	2-1-0	3	50
SEMESTER TOTAL			20	350

Course Name: Medical Terminology

Course Code: BBAHMMJ201

Course Type: MAJOR	Course Details: MJC-2			L-T-P: 4-1-0	
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		0	30	0	70

Course Objective: The course consists of all types of medical terminology, prefix, suffix, and root of terms related to anatomy, physiology, and diseases of the human body. This subject focuses on elementary anatomy and physiology of the human body, main systems, symptomatic and diagnostic terms, operative terms, abbreviations, and common diseases.

Learning Outcome: After completion of the course learners can

1. Memorize medical terms, define diseases and symptoms, read and describe the prescription.

2. Learn human anatomy and physiology from the organ and system level.

3. Understand diseases, symptoms, abbreviations, and prescription terminology related to each system and specialization.

4. Evaluate hospital equipment procurements, works, and maintenance.

5. Categories different diagnostic equipment, its works, quality, and energy efficiency.

Unit 1. Medical Terminology- Definition, basic word structure- roots, prefix, suffix; Source of medical words; basic prefixes, suffixes, and roots; terminology related to colours, location, numbers, amount, positions; common abbreviations used in prescription.

Unit 2. Cell, the structure of the cell, cell division; Overview of Human Anatomy and Body Systems; Tissues, Organs, Anatomical Terminology, and directional terms; Introduction to Body Planes and Cavities.

Unit 3. Musculoskeletal System: Overview, Structure, and Functions of Bone & Joints, Structure and Function of Muscles; Structure & Functions of Integumentary System- Skin, hair, and nails; Cardiovascular System- Heart, Blood, and Lymphatic Systems; Nervous System- central and peripheral; Digestive System; Endocrine System; Respiratory System; Sense Organs; Excretory System; Reproductive System- male and female.

Unit 4. Common diseases and operative terms related to human body systems: Musculoskeletal system, Integumentary system, Cardiovascular system, Blood and Lymphatic system, Nervous system, basic terms related to Psychiatry, Digestive system, Endocrine system, Respiratory system, Sensory system, Excretory system, Reproductive system, basic terms related to Oncology.

Unit 5. Pharmacology- Definition, Drugs- definition, chemical, generic, and brand name; Classification of drugs with examples.

Unit 6. Medical Transcription overview, understanding the importance of accuracy, confidentiality, and professionalism in transcription; formatting and proofreading skills and techniques; overview of documentation standards as per HIPAA and NABH; transcription equipment and software.

Suggested Readings:

1. Paramedics 6-in-1 Handbook by GD Mogli, 2nd Edition, Jaypee Brothers Medical Publishers (p) Ltd.
2. Human Physiology, Volume 1 and 2 by Dr. C. C. Chatterjee
3. Medical Terminology Workbook by M. Mastenbjork and S. Meloni, Medical Creations.
4. Textbook of Physiology by P. Sathya and Viji Devanand, by CBS Publishers & Distributors Pvt. Ltd.
5. Handbook of General Anatomy by BD Chaurasia, 5th Edition, CBS Publishers &Distributord Pvt. Ltd.
6. Textbook of Anatomy and Physiology for Nurses by PR Ashalatha and G. Deepa, 5th Edition, JAYPEE.

7. Medical Terminology Simplified by Barbara A. Gylys and Regina M. Masters, E.A. Davis Company, Philadelphia.
8. Medical Terminology Express by Barbara A. Gylys, Regina M. Masters, E.A. Davis Company, Philadelphia.

Teaching-Learning Process:

The teaching-learning process may be interactive classroom sessions with the help of PowerPoint presentations, reflective assessments, audio-visuals, and case discussions to ensure active participation and continuous learning.

Assessment Methods:

Internal Examinations (30 marks): Internal assessment may be conducted by using any one or in combinations of Class participation, Presentation, Project writing, Assignments, and Surprise tests as suitable.
External Examination (70 Marks): End Semester Written Examination, duration 4 hours.

Course Name: Bio-Statistics

Course Code: BBAHMMN201

Course Type: Minor	Course Details: MNC-2			L-T-P: 4-1-0	
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		0	**30**	0	**70**

Course Objective: The objective of the "Bio-Statistics" course is to equip students with the foundational knowledge and analytical skills needed to effectively apply statistical methods to biological and medical data. The course aims to provide students with a solid understanding of statistical concepts, techniques, and their relevance in designing experiments, analyzing data, and drawing meaningful conclusions in the fields of biology, medicine, and related disciplines.

Learning Outcome: By the end of this course, students should be able to:

1. Understand Statistical Concepts: Demonstrate a clear understanding of fundamental statistical concepts, including variables, data types, measures of central tendency, and variability.

2. Select Appropriate Statistical Methods: Identify and select appropriate statistical methods for analyzing different types of biological and medical data, considering factors such as data distribution and research objectives.

3. Design Experiments: Design experiments and studies with appropriate sampling techniques, sample size determination, and randomization to ensure valid and reliable results.

4. Interpret Results: Interpret statistical results in the context of biological and medical research questions, drawing valid conclusions and avoiding misinterpretations.

5. Handle Missing Data and Outliers: Address issues related to missing data and outliers, selecting appropriate techniques for imputation and outlier detection.

6. Communicate Results: Communicate statistical findings effectively through written reports, graphical representations, and presentations, targeting both technical and non-technical audiences.

7. Collaborate in Research Teams: Collaborate effectively within research teams, contributing statistical expertise to interdisciplinary projects and promoting effective data-driven decision-making.

Unit 1. Definition of Statistics and Bio-Statistics, importance and scope of statistics, limitations of Statistics; Types of data, important sources of secondary data; Collection and presentation of Data: different methods of collecting primary data: Tabular and graphical methods of data presentation; Frequency distribution; Diagrammatic presentation of frequency data: Line chart, Bar chart, Pie diagram, Histogram, Frequency polygon, Ogive.

Unit 2. Measures of Central Tendency: Simple and Weighted Arithmetic Mean – Properties, Merits, and Demerits; Geometric Mean and Harmonic Mean, Relationship among A.M., G.M., and H.M; Median and Mode – Measures, Properties, Merits, and Demerits.

Unit 3. Measures of Dispersion: Range, Standard Deviation, Mean Absolute Deviation, Quartile Deviation – their Properties, Merits, and Demerits; Relative Measures.
Concepts of Skewness and Kurtosis, Different Measures of Skewness and Kurtosis.

Unit 4. Concept of Correlation and Regression; Scatter Diagram; Pearson's Correlation Coefficient and its Properties; Spearman's Rank Correlation (in case of without tie); Simple Regression and its properties.
Vital Statistics: Measurement of Mortality, Measurement of Fertility, and Measurement of Population Growth.

Unit 5. Theory of Probability and Distributions: Concept and Important definition; Classical, Additive, Multiplicative and Conditional Theorem of Probability; student's t-test (including paired t-test), Goodness of fit and independence of attributes through Chi-square test.

Suggested Readings:

1. Statistical Methods by N.G Das (Vol I and II), McGraw Hill Education (India) Pvt. Ltd.
2. Mahajan's Methods in Biostatistics by Bratati Banerjee, 9th Edition, Jaypee Brothers.
3. Principles of Biostatistics by Marcello Pagano, Kimberlee Gauvreau, 2nd Edition, CRC Press.
4. Elements of Health Statistics by N.S.N Rao, Tara Publications.
5. A First Course in Probability by Sheldon Ross, 10th Edition, 2022, Pearson.
6. Fundamental of Statistics (vol. 1 and 2): Goon, Gupta and Dasgupta, World Press.
7. Fundamentals of Mathematical Statistics by S.C Gupta, V.K. Kapoor, 12th Edition, 2020, Sultan Chand and Sons.

Teaching-Learning Process:

The teaching-learning process may be interactive classroom sessions with the help of PowerPoint presentations, reflective assessments, and case study discussions to ensure active participation and continuous learning.

Assessment Methods:

Internal Examinations (30 marks): Internal assessment may be conducted by using any one or in combinations of Class participation, Presentation, Project writing, Case studies, Assignments, and Surprise tests as suitable.

External Examination (70 Marks): End Semester Written Examination, duration 4 hours.

Course Name: Nutrition and Public Health

Course Code: MDC206

Course Type: Multi-Dimensional	Course Details: MDC-2			L-T-P: 2-1-0	
Credit: 3	Full Marks: 50	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		0	15	0	35

Course Name: Environment Studies

Course Code: VA201

Course Type: ValueAdded Courses	Course Details: VAC-1			L-T-P: 4-0-0	
Credit: 4	Full Marks: 50	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		0	15	0	35

Course Name: Diagnostic Techniques in Healthcare

Course Code: BBAHMSE201

<table>
<tr><td colspan="2">Course Type: Skill Enhancement Course</td><td colspan="3">Course Details: SEC-2</td><td colspan="2">L-T-P: 3-0-0</td></tr>
<tr><td rowspan="3">Credit: 3</td><td rowspan="3">Full Marks: 50</td><td colspan="2">CA Marks</td><td colspan="2">ESE Marks</td></tr>
<tr><td>Practical</td><td>Theoretical</td><td>Practical</td><td>Theoretical</td></tr>
<tr><td>0</td><td>15</td><td>0</td><td>35</td></tr>
</table>

Course Objective: The Diagnosis Techniques in Healthcare course provides a comprehensive understanding of various diagnostic techniques used in healthcare settings. It covers a wide range of diagnostic methods, including physical examination, laboratory tests, imaging, and specialized diagnostic procedures. This course aims to equip students with the knowledge and skills necessary to interpret diagnostic results, understand their clinical significance, and contribute to effective patient care and treatment planning.

Learning Outcome:
By the end of the Diagnosis Techniques in Healthcare course, students should be able to:

1. Understand the importance of accurate diagnosis in healthcare and the role of diagnostic techniques in patient care.
2. Demonstrate knowledge of various diagnostic methods, including history taking, physical examination, laboratory tests, imaging techniques, and specialized diagnostic procedures.
3. Apply appropriate techniques for gathering patient history and conducting a comprehensive physical examination.
4. Interpret laboratory diagnostic tests, including hematological, clinical chemistry, and microbiological tests.
5. Evaluate imaging techniques for diagnostic purposes.
6. Understand the principles and applications of genetic and molecular diagnostic techniques in disease diagnosis.
7. Interpret diagnostic results in specialty areas.
8. Understand the role of biopsies, pathology, and histology in the diagnostic process.
9. Stay updated with emerging diagnostic technologies and future trends in healthcare.
10. Apply critical thinking skills to assess diagnostic information and contribute to effective patient care and treatment planning.
11. Communicate and collaborate effectively with healthcare professionals, patients, and their families regarding diagnostic procedures and results.

Unit 1. Introduction to diagnostic techniques- the importance of accurate diagnostic techniques in healthcare, history of diagnostic techniques and tools in brief; patient history and documentation-

components of a comprehensive physical examination- communication with the patient, confidentiality.

Unit 2. Blood test and hematology- Hemoglobin, Complete blood count (CBC), Blood typing and cross-matching, haemostasis and coagulation test; Clinical chemistry- Liver and Kidney function tests, cardiac enzymes, markers & lipid profile test. Endocrine function tests- Thyroid, Adrenal, and Diabetes related tests; Immunoglobulin and antibody tests- autoimmune disease markers, serological test for infectious disease.

Unit 3. Microbial cultural and sensitivity testing, molecular diagnosis (PCR, DNA sequencing), Identification of common pathogens; Urine test- physical, chemical, microscopic; Analysis of cerebrospinal fluid, pleural fluid, and ascetic fluid; Tumor markers for common type of cancers; Pregnancy related tests.

Unit 4. Common equipment and diagnostic techniques: X-Ray, CT, and PET (All type) Scan, MRI, ECG, EEG, USG, Infusion and Syringe pump, Anaesthesia machine/ Boyle's apparatus, Heart-lung machine, IABP, ABG analysis machine, USG Doppler, Echocardiography, PFT, Ventilator, Diathermy, Patient Monitor, Defibrillators, Hematology analyzer/ Cell counter, Biochemistry analyzer, ESU/ Cautery machine, Suction apparatus.

Unit 5. Sterilizer- Autoclave, ETO, Plasma; Bone densitometer, C-Arm machine, Cath lab, Pacemaker, Endoscopy, Colonoscopy, Arthroscopy, Bronchoscopy, IVF, Lithotripsy, Lung Function test, FNAC, FNAB, Gastroscope, Operating Instrument set, Oxygen concentrator, Pulsoxymeter, Robotic surgery.

Suggestive Readings:

1. Paramedics 6-in-1 Handbook by GD Mogli, 2nd Edition, Jaypee Brothers Medical Publishers (p) Ltd.
2. https://cdsco.gov.in/opencms/opencms/en/Medical-Device-Diagnostics/Medical-Device-Diagnostics/
3. Biomedical Equipment Management & Maintenance Program by National Health Mission, https://nhm.gov.in/index1.php?lang=1&level=3&sublinkid=1224&lid=586
4. Laboratory Equipments: Hospital Medical Equipments made Easy by R.K.V Murugan, 1st Edition, 2022, Notion Press.
5. Introduction to Biomedical Instrumentation and Its Applications by Sudip Paul et. Al., 2022, Academic Press.
6. Sonography Principles and Instruments by Frederick W. Kremkau, 10th Edition, 2020, Saunders.
7. Pocket Essential Medical Equipment by David Zhang and Norbert Banhidy, 1st Edition, 2022, CRC Press.

Teaching-Learning Process:

The teaching-learning process may be interactive classroom sessions with the help of PowerPoint presentations, reflective assessments, and case study discussions to ensure active participation and continuous learning.

Assessment Methods:

Internal Examinations (15 marks): Internal assessment may be conducted by using any one or in combinations of Class participation, Presentation, Project writing, Case studies, Assignments, and Surprise tests as suitable.

External Examination (35 Marks): End Semester Written Examination, duration 2 hours.

Semester- III

Syllabus of Bachelor of Business Administration (Hospital Management)

BBA (Hospital Management)

Course Title	Course Type	(L-T-P)	Credit	Marks
Hospital Operation Management-II	MAJOR	(4-1-0)	5	100
Community Health, Epidemiology, and Hospitals	MAJOR	(4-1-0)	5	100
Business Environment	MINOR	(4-1-0)	5	100
MD	MD	(2-1-0)	3	50
English Communication	AE	(4-0-0)	4	50

Course Name: Hospital Operation Management- II

Course Code: BBAHMMJ301

Course Type: Major	Course Details: MJC-3			L-T-P: 4-1-0	
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		0	**30**	**0**	**70**

Course Objective: The subject focuses on the planning of the hospital and healthcare establishment, project management, and all clinical establishment and related planning inside a hospital. This course will facilitate the practical approach toward the planning, building, initiating, shakedown periods, and starting the operational phase of a hospital. For further clarity, the subject focuses on project management and related functions and tools. Clinical services provided by a tertiary-level hospital are described in the subject with brief clarity. i.e., location, physical facilities, equipment, manpower, and operational issues. Case studies and lectures from industry professionals are required to fulfill the objective of the course.

Learning Outcome: After completion of the course learners can

1. Identify the prerequisites to establish a hospital or healthcare facility.
2. Planning of a hospital, from blueprints to shakedown periods.
3. Outline the project management steps, describe its components, and solve mini-cases related to project management.
4. Categorize projects, manage teams, and estimate the project by cost-effective and cost-benefit analysis.
5. Describe different clinical services in a hospital.
6. Illustrate and demonstrate clinical services required for fully operational hospitals.
7. Dramatize different activities and argue on operations for clinical efficiency.
8. Categories Diagnostics and Allied Services available in the Hospital.
9. Illustrated and demonstrated Diagnostic services and its operations.
10. Develop and argue hospital clinical and diagnostic services' policies and processes.

Unit 1. Define Project, Project Management, Issues & Challenges; Project Life cycle; Project constraints; Project feasibility studies; Social CBA and CEA;

Project charter, Project Planning, and Scheduling- Gantt chart and other control charts, PERT and CPM analysis, float and slacks- concept, AOA and PDM/AON Network- overview; Project risks, procurement, stakeholder management; Project report writing- DPR;
Greenfield and Brownfield projects- overview. Agile and Lean project management- overview only.

Unit 2. Hospital planning- building blocks and ideas, site selection- terrain, climatological consideration; feasibility study for the hospital; Expression of Interest, Request for proposal; Detailed project report (DPR)- Hospital overview;
Designing and landscaping- flexibility, orientation, slope study. Plans- blueprints, master plan, different designing considerations- planning grid, schematic design, stack diagram; construction of building and commissioning shakedown period- documentation.

Unit 3. Interior planning- zoning, anthropometric aspects, structural and non-structural components- water, plumbing, electricity, environmental control- HVAC, flooring, windows, doors, surface materials, ceiling, ramps, stairs, lifts; and design considerations; Safety and security.

Unit 4. Future Hospitals- Holistic Concept and Approaches; Evidence-based design, Sustainable design, Designing Green Hospitals- process, LEED & ratings, Patient-focused hospital design & process, Modular Building Concepts, Autonomous Hospital, Smart Hospital concepts and e-Hospital; Case Study on Hospital Designing- any two Indian multi or super-specialty hospitals. MediCAB: Portable hospital in India- case Study.

Unit 5. Clinical services- Location, Design, equipment, resources allocation, and operations of - outpatient services including front office, OPD, Accident and Emergency, and Daycare Services; Inpatient services- nursing units- floor planning and management- Ward- Isolation- solarium; Intensive Care Unit (ICU)- CCU- HDU; Surgical Units – OT; LRDP Suits; Physical Medicine and Rehabilitation (PMR); Palliative care, Facilities for aged and specially-abled.

Unit 6. Location, Physical facilities, and equipment planning of diagnostic and therapeutic services- Laboratory, medical imaging, radiological services, sonography, equipment used, advanced imaging services. NABL and AERB in brief; Medical Gases; Blood bank and Transfusion Services; Pharmacy services;
Advanced facilities- Dialysis unit, Burn unit, IVF facilities, Cancer hospital- Radiotherapy unit- Nuclear medicine unit, Psychiatry units, Telemedicine, Cyber Security & patient safety, Robotic surgery, automated and AI-assisted facilities.

Suggested Readings:

1. Fundamentals of Project Management by Joseph Heagney, 6th Edition, 2022, HarperCollins Leadership.
2. Project Management by Pradeep Pai, 2019, Pearson India.

3. Construction Management of Healthcare Projects by Sanjiv Gokhale & Thomas Gormley, 1st Edition, 2014, McGraw Hill.
4. The Fast Forward MBA in Project Management by Eric Verzuh, 6th Edition, 2021, Wiley.
5. Innovations in Hospica Architecture by Stephen Verderber & Ben J. Refuerzo, Taylor and Francis, 2006.
6. Step by Step Hospital Designing and Planning by Sangeet Sharma, 2nd Edition, Jaypee, 2010.
7. Hospitals and Nursing Homes: Planning, Organization, and Management by Syed Amin Tabish, 2nd Edition, Jaypee, 2022.
8. Planning and Designing of Speciality Health Care Facilities by R. Chandrashekhar, Shakti Kumar Gupta, Sunil Kant, 1st Edition, Jaypee, 2021.
9. Hospitals- Facilities Planning and Management by G. D. Kunders, McGraw Hill Education, 2017.
10. Hospital Architecture (Architecture in Focus) by Christine Nickl-Weller, Thames and Hudson, 2012.
11. Hospital Administration by D.C Joshi, Mamta Joshi, 2nd Edition, Jaypee Brothers Medical Publisher, 2022.
12. Hospitals and Medical Facilities: Construction and Design Manual by Philipp Meuser & Franz Labryga, DOM Publishers, 2019.
13. Manual for Hospital Planning and Designing: For Medical Administrators, Architects, and Planners by Ajay Garg & Anil Dewan, Springer Verlag, Singapore, 2022.
14. Airborne Infection Control Guide to Planning and Designing Hospital by Pervez Ahmed, Jaypee Brothers Medical Publisher, 2021.
15. Planning, Designing, and Construction of Health Care Facilities by Joint Commission Resources, Edited by Carolyn Schierhorn, 4th Edition, 2020, Joint Commission Resources.
16. NABH Accreditation Standards for Hospitals April 2020, 5th Edition, ISBN: 978-81-944-8776-0.
17. Hospital Pharmacy by H.P Tipnis, 2019, Career Publications.
18. Concise Textbook on Hospital Management & Patient Care in Diagnostic Radiology by N.K. Kardam and Lalit Agarwal, 2021, JBD Publications.
19. Essentials of Blood Banking and Transfusion Medicine By Ganga S. Pilli, 2021, CBS Publishers and Distributors Pvt Ltd.

Teaching-Learning Process:

The teaching-learning process may be interactive classroom sessions with the help of PowerPoint presentations, reflective assessments, industry visits, workshops, and case study discussions to ensure active participation and continuous learning.

Assessment Methods:

Internal Examinations (30 marks): Internal assessment may be conducted by using any one or in combinations of Class participation, Presentation, Project writing, Case studies, Assignments, and Surprise tests as suitable.

External Examination (70 Marks): End Semester Written Examination.

Course Name: Community Health, Epidemiology, and Hospitals

Course Code: BBAHMMJ302

Course Type: Major	Course Details: MJC-4			L-T-P: 4-1-0	
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		0	**30**	**0**	**70**

Course Objective: To provide students with a comprehensive understanding of community health, epidemiology, and hospitals, and their role in promoting population health and healthcare delivery.

Learning Outcomes:

1. Knowledge and Understanding:
   - Define and explain the concepts of community health and epidemiology.
   - Identify the determinants of health and their impact on community health outcomes.
   - Describe the healthcare delivery system, including the role of hospitals in providing healthcare services.
   - Understand the principles and methods of epidemiology for studying diseases in populations.

2. Comprehension and Application:
   - Analyze the social, economic, and environmental factors influencing community health.
   - Apply epidemiological principles and methods to investigate and assess health issues in a community.
   - Evaluate the effectiveness of health promotion and disease prevention strategies in a community setting.
   - Examine the role of hospitals in delivering primary, secondary, and tertiary healthcare services.

3. Analysis and Evaluation:

- Critically analyze the strengths and weaknesses of national health programs in addressing community health needs.
- Evaluate the impact of health education and behavior change interventions on community health outcomes.
- Assess the effectiveness of environmental health policies and occupational health programs in protecting community health.
- Analyze and interpret epidemiological data to inform public health decision-making.

4. Synthesis and Creation:
- Develop community health assessment plans and research proposals.
- Design and implement health promotion campaigns targeting specific community health issues.
- Formulate strategies to improve healthcare access and quality in underserved communities.
- Propose evidence-based interventions for disease prevention and control in a community setting.

5. Ethical and Professional Conduct:
- Demonstrate ethical practices in community health research and data collection.
- Exhibit professionalism and cultural sensitivity in engaging with diverse communities.
- Apply ethical principles to address issues related to privacy, confidentiality, and informed consent in community health settings.
- Recognize and respect the rights and autonomy of individuals and communities in healthcare decision-making.

Unit 1. Concept of Disease- the concept of causation- Natural history of disease; concept of control; concept and modes of prevention and intervention; Introduction to public health- health promotion and disease prevention strategies; Primary Healthcare and its components; Sub-Unit-PHC- CHC; Water- Air- Housing and Sanitation quality.

Unit 2. Definition and concept of Epidemiology, Basic measurements and tools; Incidence and Prevalence- measures of disease frequency, use of routine, vital, and health statistics; Epidemiological methods- Observational, Experimental, and Analytical (Overview only); Case study- Doll and Hill's studies on smoking and lung cancer, Framingham Study.

Unit 3. Dynamics of disease transmission- mode of transmission, Host defenses, immunity, vaccines and immunoglobulins (basic knowledge)- cold chain- Universal Immunization Programme; Community health- healthcare delivery system of India- Central, State, District, and Panchayati raj level; Few National Health Programmes- National Health Mission, AB-PMJAY, RMNCH+A, NACP, NVBDCP, PMSMA, NPCDCS, and NPCB&VI.

Unit 4. Epidemiology of Communicable Diseases- Influenza, Food Poisoning, Tetanus, AIDS, Rabies; Epidemiology of Non-communicable Diseases- Hypertension, Cancer, Diabetes, Cardiovascular Diseases, Mental Health Disorders.

Unit 5. Infection control- community level; basic hygiene practices for disease prevention- community level; Hospital Acquired Infection Control- infection control committee- prevention and management; Hospital Risk Management- patient safety and care; Occupational Safety in Hospital; Biomedical Waste Management in Hospital- BMW Rule 2016- identification, segregation, packaging, transportation, storage, treatment, and disposal.

Unit 6. Disaster- types, mitigation, and management; Disaster management in Hospitals- Hospital Emergency Incident Command System- mitigation and Disaster Triage System; Internal Disaster- Various codes and commands in emergency in Hospitals- hospital security. Fire safety in Hospitals- types of fire- fire extinguishers- fire management system in hospitals- alarm, exit, safety, and engineering system.

Reference:

1. Text Book on Preventive and Social Medicine by K. Park, 27th Edition, 2023, Banarshidas Bhanot Publisher.
2. Definition Handbook of Community Medicine by Dr. Rijul Ranjan, Bluerose Publishers Pvt. Ltd.
3. DK Taneja's Health Policies and Programmes in India by Bratati Banerjee, 17th Edition, 2022, Jaypee Brothers Med Pvt Ltd.
4. IAPSM's Textbook of Community Medicine by AM Kadri et al., 3rd Edition, 2024, Jaypee Brothers Medical Publishers (P) Ltd.
5. A Comprehensive Textbook on Community Health Nursing by Bijayalaskhmi Dash, 2nd Edition, 2023, Jaypee Brothers Medical Publishers (P) Ltd.
6. Review of Preventive and Social Medicine (Including Biostatistics) by Vivek Jain, 15th Edition, 2023, Jaypee Brothers.
7. Hospital Administration by DC Joshi and Mamta Joshi, 2nd Edition, Jaypee Brothers Medical Publishers.
8. Disaster Management for Health Care Professionals by Joshi Sonopant G, Jaypee Brothers Medical Publishers.
9. Hospital Hazards and Disaster Management by Prof. Muhammadu Sathik Raja, 2024, Academic Guru Publishing House.
10. A Manual of Fire Prevention and Fire Protection for Hospitals by Otto Robert Eichel, 2023, Legare Street Press.

Teaching-Learning Process:
The teaching-learning process may be interactive classroom sessions with the help of PowerPoint presentations, reflective assessments, industry visits, workshops, and case study discussions to ensure active participation and continuous learning.

Assessment Methods:
Internal Examinations (30 marks): Internal assessment may be conducted by using any one or in combinations of Class participation, Presentation, Project writing, Case studies, Assignments, and Surprise tests as suitable.
External Examination (70 Marks): End Semester Written Examination.

Course Name: Business Environment

Course Code: BBAHMMN301

Course Type: Minor	Course Details: MNC-3			L-T-P: 4-1-0	
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		0	**30**	**0**	**70**

Course Objective:
To provide students pursuing hospital management with a comprehensive understanding of the business environment in the healthcare industry, enabling them to analyze and adapt to the dynamic factors that influence healthcare organizations.

Learning Outcomes:

1. Knowledge:
- Define the concept of the business environment in the context of the healthcare industry.
- Identify and describe the key components of the healthcare business environment, including economic, social, legal, technological, and political factors.
- Explain the interrelationships between various elements of the business environment and their impact on healthcare organizations.

2. Comprehension:
- Interpret the implications of different economic trends and policies on hospital management decision-making.
- Analyze the social and demographic factors influencing healthcare service demand and delivery.
- Understand the legal and regulatory framework governing healthcare organizations and their implications for management practices.
- Discuss the impact of emerging technologies and innovations on healthcare operations and service delivery.

3. Application:
- Evaluate the opportunities and challenges arising from the business environment in the healthcare industry.
- Apply strategic management concepts to develop business strategies that align with the prevailing healthcare business environment.

- Propose adaptive measures to mitigate risks and capitalize on opportunities presented by the changing healthcare landscape.
- Analyze case studies and real-world scenarios to identify appropriate business responses to environmental factors.

4. Analysis:
- Analyze the competitive forces within the healthcare industry and assess their impact on hospital management.
- Evaluate the strengths, weaknesses, opportunities, and threats (SWOT) of healthcare organizations concerning the business environment.
- Assess the impact of governmental policies, regulations, and reforms on healthcare organizations and their strategic decision-making.

5. Synthesis:
- Develop innovative approaches to leverage emerging technologies and trends to improve healthcare service delivery and organizational performance.
- Formulate strategies to address challenges posed by the business environment, such as changing patient expectations, cost constraints, and competition.
- Design contingency plans to respond to potential disruptions or changes in the healthcare business environment.
- Integrate knowledge from various aspects of the business environment to propose comprehensive business strategies for healthcare organizations.

6. Evaluation:
- Critically evaluate the effectiveness of different management approaches in adapting to the business environment in the healthcare industry.
- Assess the ethical and social implications of business decisions made in response to environmental factors.
- Appraise the impact of healthcare business environment factors on financial performance, patient satisfaction, and quality of care in healthcare organizations.
- Critique and recommend improvements to existing healthcare management practices based on an understanding of the business environment.

Unit 1. Concept, nature, and importance of business and business environment – Types of the environment; general and task environment, internal and external environment, Basic elements of environment: socio-cultural, political, legal, economic, and technological elements with case studies. Business environment scanning and analysis- methods and applications; PESTEL, SWOT, and Competitors analysis.
Unit 2. **Economic Environment**: Concept, types- systems- Capitalist, Socialist, and Mixed; Macroeconomic Indicators- GDP, Inflation, Unemployment, Interest rates, Foreign exchange

reserves, income distribution, infrastructure; Economic Policies- Fiscal, Monetary, and Trade. **Global economic environment**- LPG and its impact on Indian Business Economy; EXIM Policy of India, MNC, and Foreign Investments- Strategies for entering into foreign market; most favored nations (MFN), SEZ and its impact.

Unit 3. **Legal and Regulatory Framework**- overview, impact on business with case studies; Consumer Protection Act 1986; Companies Act 2013- salient features, corporate governance, corporate social responsibilities, types of companies, structure of the companies, MOA & AOA, Meetings; The West Bengal Clinical Establishment (Registration, Regulation, and Transparency) Act, 2017;
Intellectual Property Rights and its significance; Insurance and Tax; OECD, GATT-WTO, NAFTA, World Bank, Conflict resolution, dispute settlements, and litigation.

Unit 4. **Socio-cultural environment:** Society and groups, family and society- lifestyle, life cycle, social theory of risk perception, traditional values & modernization, impact of social environment on business;
Concept and nature of culture – Impact of culture on business – cultural resources – Culture as a change agent, Hall's map of culture, analysis, adaptation, and conflict, cross-cultural analysis; Ethics and social responsibility of business – Arguments for and against social responsibility.

Unit 5. Technological environment: Understanding technology- technology transfer, Schumacher movements & appropriate technology; Technological hazards, VUCA world and changes in technology, Industry 4.0 and 5.0- concept, Case study.
Impact of Business Environment in Healthcare: Global Health Trends and Challenges, the Role of WHO, Patient Rights and Healthcare Ethics- values, and cultural issues- abortion, euthanasia; Healthcare budgeting and financing- Pricing issues, insurance concept, economic impacts on healthcare.

Reference:
1. Taxmann's Business Environment: The Essential Economic System by Prof. (Dr.) Satya P. Das, prof. (dr.) J. K. Goyal, Prof. (dr.) Dipti Kakar, March 2024, Taxmann Publications Pvt. Ltd.
2. Business Environment by K. Chidambaram and V. Alagappan, First Edition, 2021, S.Chand.
3. Business Environment: Text and Cases by Justin Paul, 4th edition, 2018, McGraw Hill Education.
4. Business Environment by Dr. C. B. Gupta, 2022, Sultan Chand and Sons.
5. Essentials of Business Environment (Text, Cases & Exercises) by K. Aswathappa, 16th Edition, Himalaya Publishing House.
6. Business Environment by B.S. Raman and Y. S. Ganesh, 2022, Chethana Book House.
7. Business Environment by B.N. Ghosh, 2014, Oxford University Press.

8. Business Environment: Text and Cases by Francis Cherunilam, 30th Edition, Himalaya Publishing House.
9. Economic Environment of Business by Nair, Banerjee, and Agarwal, 2019, Pragati Prakashan.
10. International Business in VUCA World by Rob Van Tulder, Alain Verbeke, and Barbara Jankowska, 2019, Emerald Publishing.

Teaching-Learning Process:
The teaching-learning process may be interactive classroom sessions with the help of PowerPoint presentations, reflective assessments, industry visits, workshops, and case study discussions to ensure active participation and continuous learning.

Assessment Methods:
Internal Examinations (30 marks): Internal assessment may be conducted by using any one or in combinations of Class participation, Presentation, Project writing, Case studies, Assignments, and Surprise tests as suitable.
External Examination (70 Marks): End Semester Written Examination.

Course Name: One from Multidisciplinary Course offered in 3rd Semester Pool

Course Code: MDC

Course Type: MD	Course Details: MD-3			L-T-P: 2-1-0	
Credit: 3	Full Marks: 50	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		0	**15**	**0**	**35**

Course Name: English Communication

Course Code: AECE101

Course Type: AE	Course Details: AEC-2			L-T-P: 4-0-0	
Credit: 4	Full Marks: 50	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		0	**15**	**0**	**35**

Semester- IV

Syllabus of Bachelor of Business Administration (Hospital Management)

Semester- BBA (Hospital Management)

Course title	Course Type	(L-T-P)	Credit	Marks
Hospital Operation Management- III	**MAJOR**	**(4-1-0)**	**5**	**100**
Accounts and Financial Management in Hospitals	**MAJOR**	**(4-1-0)**	**5**	**100**
Hosp[ital Information System	**MINOR**	**(4-1-0)**	**5**	**100**
Data Analysis using Python	**SE**	**(2-1-0)**	**3**	**50**
Choose from the pool of Value Added courses offered in 4th Semester	**VA**	**(4-0-0)**	**4**	**50**

Course Name: Hospital Operation Management- III

Course Code: BBAHMMJ401

Course Type: MAJOR	Course Details: MJC-5			L-T-P: 4-1-0	
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		0	**30**	0	**70**

Course Objective: Modern hospitals follow the patient-centric approach with high values. The course objective for Hospital Operation Management- III is to provide students with an understanding of the various supportive and utility services and systems that are essential for the functioning of a hospital, with a focus on patient-centric care. The course is designed to meet the expectations of the hospital from the budding professionals to implement supportive and utility services towards patient-centric care, where the patient would participate in decision-making along with the healthcare facilitators. The various information technology-enabled facilities impart in the patient care system of a hospital at large are included in the course.

Learning Outcomes: The learning outcomes of Hospital Operation Management- III are

1. Study patient-centric management principles and how they can be applied in a hospital setting to improve patient satisfaction and quality of care.
2. Apply the principles of patient-centric management in improving patient satisfaction and quality of care, and to develop effective communication and collaboration within the hospital environment.
3. Understand the importance of support and utility services in a hospital setting and their role in ensuring efficient and effective patient care.
4. Learn about different types of support and utility services and their specific responsibilities and functions.
5. Analyze case studies and real-world examples of effective support and utility services and patient-centric management in hospitals.
6. Develop the skills and knowledge necessary to manage and improve support and utility services and management strategies in a hospital setting.
7. Understand how to use data and analytics to continuously improve the performance of support and utility services and the patient-centric approach.
8. Learn about the hospital's internal and governmental information services, use of online applications, and their role in healthcare.

Unit 1. Supportive Services- meaning, importance, and types of supportive services in a hospital. Location, design, physical facilities and equipment, staffing, and functions of the following Supportive Services:

- CSSD
- Telemedicine- NMC standards
- Insurance and TPA
- Medical Social Workers
- Hospital statistical services and health service data
- Medical Records
- Patient Safety
- Allied paramedical services

Unit 2. Utility Services I- meaning, importance, and types of utility services in a hospital. Location, design, physical facilities and equipment, staffing, and functions of the following Utility services:

- Transport Services
- Mortuary Services
- Linen and Laundry Services
- Housekeeping
- Security Services

Unit 3. Utility Services-II: Location, design, physical facilities and equipment, staffing, and functions of the following Utility services

- Hospital Infection Control
- Hospital engineering and maintenance services, Lighting, and HVAC
- Dietary services
- Hospital waste management
- Hospital procurement, stores, and supply

Unit 4. Hospital Administrative Services: Location, design, physical facilities and equipment, staffing, and functions of the following

- Admission and back office
- Human Resource Management
- Marketing and Branding
- Finance Department
- Quality Management
- General operations
- Corporate Services
- Community Services

Unit 5. The patient-centric approach of Modern Hospitals, Patient satisfaction, feedback system, VIP and emergency patient care, Grievance handling mechanism; Duties and responsibilities of the Hospital Operations department, Skills required to utilize the patient-centric approach of the hospital, Documentation policies and SOP.

Suggested Readings:

1. Hospital Supportive Services: Hospital Administration in the 21st Century by S.L Goel and R. Kumar, Deep & Deep Publications, 2004.
2. Patient Care Services and Hospitals by S. Porkodi, Excel Books, Latest Edition.
3. Hospital Supportive Services- Sangeetha Natarajan, Excel Books, Latest Edition.
4. Hospitals- facilities planning and management by G.D. Kunders, McGraw Hill Education, 2017.
5. Hospital Administration by DC Joshi, Mamta Joshi, 2nd Edition, Jaypee Brothers medical publishers, 2022.
6. Hospital Information System: A concise study by S. A. Kelkar, Prentice Hall India Learning Private Limited, 2010.
7. Management Information System by K.C Laudon and Jane P. Laudon, 7th Edition, Pearson India, 2022.
8. Managing a CSSD: A Personal Perspective by Joan M. Losper, Kindle Edition, 2021.
9. Hospital and Nursing Homes Planning, Organizations and Management by Syed Amin Tabish, 2nd Edition, Jaypee Brothers Medical Publishers, 2022.
10. Patient Centric Healthcare by Sanjay Rajpal, Kindle Edition, 2021.

11. Hospital Administration and Management: A Comprehensive Guide by Joydeep Das Gupta, 2nd Edition, 2015, Jaypee Brothers Medical Publishers.

Teaching-Learning Process:
The teaching-learning process may be interactive classroom sessions with the help of PowerPoint presentations, reflective assessments, industry visits, workshops, and case study discussions to ensure active participation and continuous learning.

Assessment Methods:
Internal Examinations (30 marks): Internal assessment may be conducted by using any one or in combinations of Class participation, Presentation, Project writing, Case studies, Assignments, and Surprise tests as suitable.
External Examination (70 Marks): End Semester Written Examination, duration 3 hours

Course Name: Accounts and Financial Management in Hospitals

Course Code: BBAHMMJ402

Course Type: MAJOR	Course Details: MJC-6			L-T-P: 4-1-0	
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		0	**30**	0	**70**

Course Objective: To provide students with a comprehensive understanding of the financial management of healthcare organizations. This includes topics such as basic accounting, revenue management, financial analysis, cost accounting, capital budgeting, materials control, etc. The course also focuses on the unique financial challenges faced by hospitals and other healthcare organizations, such as managing the cost of providing care to uninsured patients and navigating the complex regulations that govern healthcare financing. Ultimately, the goal of the course is to equip students with the knowledge and skills they need to effectively manage the financial operations of a healthcare organization and support decision-making that aligns with the organization's mission and strategic goals.

Learning Outcomes: The learning outcomes of the course are:

1. Recognizing and recalling key terms, concepts, and processes related to hospital accounting and financial management.
2. Explain the purpose and function of various financial statements, such as the balance sheet and income statement, and how they are used to measure the financial performance of a hospital.

3. Using financial ratios and other analysis techniques to evaluate the financial health of a hospital.
4. Breaking down financial information to identify patterns and trends that can be used to make informed financial decisions.
5. Assessing the effectiveness of a hospital's financial management strategies and making recommendations for improvements.
6. Help to develop budgets, financial plans, and other financial management tools that can be used to guide the financial operations of a hospital.

Unit 1. Accounting: Business Transaction and Basic Terminology, Need to Study Accounting, Accounting Functions, Purpose of Accounting Records, Accounting Principles – Concepts and Conventions, Accounting Equation.

Unit 2. Account Records: Principles of Double Entry System, Journal Entries, Ledger, Subsidiary Books – Cash, Sales & Purchase books, Components of Hospital Accounting; Financial Statement: Basic Financial Statements, Trial Balance, Preparation of Final Accounts, Basic Adjustments to final Accounts, Methods of Presenting Final Accounts Practical Problem; Issues in Hospitals.

Unit 3. Introduction to materials control, stock levels, EOQ, Lead Time, Materials pricing and issues (LIFO and FIFO); Introduction to cost accounting- elements and types of cost, Cost sheet preparation (Introduction only).

Unit 4. Introduction: Definition, Scope, and Objectives of Financial Management; The Goal of a Firm: Profit Maximization vs. Wealth Maximization; Financial Functions – Financing and Investment; The Role of a Finance Manager in Hospital; Time Value of Money: Concept; compounding and Discounting Concepts; Challenges in the hospital operations- financial perspective.

Unit 5. Basics of Capital Budgeting: Nature of investment decisions; importance of investment decisions; investment evaluation criteria; capital budgeting techniques – NPV, IRR, Payback, and accounting rate of return.

Suggested Readings:

1. Financial Management for Hospital Administration by G.R. Kulkarni, P. Satyashankar, Libert Anil Gomes, latest edition, Jaypee Brothers Medical Publishers.
2. Healthcare Finance: An Introduction to Accounting and Financial Management by Louis C. Gapenski, 4th Edition, 2023, Kindle Edition.
3. India Public Finance and Policy Report: Health Matters by Jyotsna Jalan, Sugata Marjit, and Sattwik Santra, OUP 2020.
4. Management Accounting by M.Y Khan and P.K. Jain, 8th Edition, 2021, McGraw Hill.

5. Financial Management by I. M. Pandey, 12th Edition, 2021, Pearson.
6. Financial Management: Text, Problems, and Cases by M.Y Khan and P. K. Jain, 8th Edition, 2018, McGraw Hill.
7. Cost Accounting: Text, Problems, and Cases by Jawahar Lal, Seema Srivastav, Manisha Singh, 6th Edition, 2019, McGraw Hill India.
8. Introduction to Accountancy by T.S. Grewal and S.C Gupta, 2016, S. Chand Publishing.
9. Management Accounting by Dr. B.K. Mehta, 2019, SBPD Publications.
10. Introduction to Financial Management of Healthcare Organizations by Michael Nowicki, 8th Edition, 2021, Health Administration Press.

Teaching-Learning Process:

The teaching-learning process may be interactive classroom sessions with the help of PowerPoint presentations, reflective assessments, industry visits, workshops, and case study discussions to ensure active participation and continuous learning.

Assessment Methods:

Internal Examinations (30 marks): Internal assessment may be conducted by using any one or in combinations of Class participation, Presentation, Project writing, Case studies, Assignments, and Surprise tests as suitable.
External Examination (70 Marks): End Semester Written Examination, duration 3 hours

Course Name: Hospital Information System

Course Code: BBAHMMN401

Course Type: MINOR	Course Details: MNC-4			L-T-P: 4-1-0	
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		0	**30**	0	**70**

Course Objective: The course "Hospital Information System (HIS)" aims to equip students with a comprehensive understanding of the principles, design, implementation, and management of hospital information systems. The course will explore the integration of various healthcare processes through information technology, focusing on the optimization of healthcare delivery, patient data management, and administrative efficiency. Students will learn how to leverage HIS to improve clinical decision-making, enhance communication among healthcare providers, and ensure the security and privacy of patient information.

Learning Outcomes:

1. Remembering:
   - Outcome: Identify the key components and functions of a Hospital Information System.
   - Description: Students will recall the fundamental elements such as Electronic Health Records (EHR), Laboratory Information Systems (LIS), Radiology Information Systems (RIS), and the roles they play in healthcare settings.

2. Understanding:
   - Outcome: Explain the workflow and data flow within a Hospital Information System.
   - Description: Students will demonstrate an understanding of how different HIS components interact and share information across various departments.

3. Applying:
   - Outcome: Utilize HIS tools to manage patient records and support clinical decision-making.
   - Description: Students will apply their knowledge by using HIS software to enter, retrieve, and analyze patient data, demonstrating how these systems support daily hospital operations.

4. Analyzing:
   - Outcome: Evaluate the effectiveness of HIS in enhancing patient care and operational efficiency.
   - Description: Students will analyze case studies or real-world examples to assess how HIS impacts clinical outcomes, workflow efficiency, and patient satisfaction.

5. Evaluating:
- Outcome: Critically assess the challenges and limitations associated with the implementation of HIS in healthcare facilities.
- Description: Students will evaluate issues such as data privacy concerns, interoperability challenges, user training needs, and the financial implications of HIS adoption.

6. Creating:
- Outcome: Design a blueprint for implementing an HIS in a healthcare facility, considering technical, organizational, and regulatory factors.
- Description: Students will synthesize their knowledge to create a comprehensive plan for deploying an HIS, including system selection, customization, staff training, and compliance with healthcare regulations.

Unit 1. Data and information; Organization structure and business processes- an overview; Introduction to the information system; Resources and components of the information system; Types of Information System; Management Information System (MIS)- evaluation and role in an organization, MIS developing process- steps, Simon's model in the information system; Decision Support System (DSS), Executive Support System (ESS/EIS), Transaction Processing System (TPS)- role of these systems in strategic decision making.

Unit 2. Overview of Hospital Information System (HIS)- history and evaluation, Key components of HIS- HER, LIS, RIS, PACS, etc; Standards and regulations in HIS (HIPAA, DICOM, HL7, NABH, Health Data Management Policy 2020, ISO/IEC 2700:2013- Overview and usage only).

Unit 3. HIS Architecture and dataflow, Patient Data Management- Admission, Discharge, and Transfer (ADT), Workflow automation in HIS, ICD-SNOMED integration with HIS; Electronic Healthcare Record- EMR, Electronic Health Record Standards for India by MoHFW, security and storage compliances of patient care data, Challenges of electronic medical records.

Unit 4. Types and sources of healthcare data in healthcare organization- Data- Information- knowledge- wisdom hierarchy; relevance of data and information in business process- types of data- representation of data (statistically and Graphically); Decision making models- data analytics and predictions, basic overview of regression analysis, logistics, kNN, Naïve Bayes. Customer Relationship Management (CRM) and Supply Chain- Overview.

Unit 5. Software management and Hospital Information Systems: IT in healthcare; MIS; HIS and its components- Cloud-based healthcare management system (e.g., HINAI), IPD and OPD management system including booking, hospital store management system, Blood bank & transfusion management system (ROKTOKOSH), Vendor management applications, Government online portals like ABHA, Co-WIN, Aarogya Setu, etc.

Suggested Readings:

1. Hospital Supportive Services: Hospital Administration in the 21st Century by S.L Goel and R. Kumar, Deep & Deep Publications, 2004.
2. Patient Care Services and Hospitals by S. Porkodi, Excel Books, Latest Edition.
3. Hospital Supportive Services- Sangeetha Natarajan, Excel Books, Latest Edition.
4. Hospital Information System: A concise study by S. A. Kelkar, Prentice Hall India Learning Private Limited, 2010.
5. Management Information System by K.C Laudon and Jane P. Laudon, 7th Edition, Pearson India, 2022.
6. Management Information System by Rames Buhl, McGraw-Hill.
7. Healthcare Data Analytics by Reddy and Agarwal, Chapman and Hall.
8. Data Analytics by Maheswari, McGraw-Hill India.

Teaching-Learning Process:

The teaching-learning process may be interactive classroom sessions with the help of PowerPoint presentations, reflective assessments, industry visits, workshops, and case study discussions to ensure active participation and continuous learning.

Assessment Methods:

Internal Examinations (30 marks): Internal assessment may be conducted by using any one or in combinations of Class participation, Presentation, Project writing, Case studies, Assignments, and Surprise tests as suitable.
External Examination (70 Marks): End Semester Written Examination, duration 3 hours

Course Name: Data Analysis using Python

Course Code: BBAHMSE401

Course Type: SE	Course Details: SEC-3			L-T-P: 2-1-0	
Credit: 3	Full Marks: 50	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		0	**15**	0	**35**

Course Objectives:-

Students will learn how to use Python to analyze various sorts of data in this course. Students will gain knowledge of how to prepare data for research, carry out straightforward statistical analysis, produce relevant data visualizations, and forecast future trends using data.

Course Outcomes:-

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

1. Understanding the basics of Python for performing data analysis

2. To gain insights from data, one must comprehend the data and do pre-processing, processing, and data visualization.

3. For applications in mathematics, science, and web data analysis, use various Python packages.

4. Develop the model for data analysis and evaluate the model performance.

Unit 1: Python Fundamentals for Data Analysis Python data structures, Control statements, Functions, Object-oriented programming concepts using classes, objects, and methods, Exception handling, Implementation of user-defined Modules and Packages, and File handling in Python.

Unit 2: Introduction to Data Understanding and Pre-processing Knowledge domains of Data Analysis, Understanding structured and unstructured data, Data Analysis process, Dataset generation, Importing Dataset: Importing and Exporting Data, Basic Insights from Datasets, Cleaning and Preparing the Data: Identifying and Handle Missing Values.

Unit 3: Data Processing and Visualization Data Formatting, Exploratory Data Analysis, Filtering, and hierarchical indexing using Pandas. Data Visualization: Basic Visualization Tools, Specialized Visualization Tools, Seaborn Creating and Plotting Maps.

Unit 4: Mathematical and Scientific applications for Data Analysis Numpy and Scipy Package, Understanding and creating N-dimensional arrays, Basic indexing, and slicing, Boolean indexing,

Fancy indexing, Universal functions, Data processing using arrays, File input and output with arrays.

Unit 5: Analysing Web Data, Data wrangling, Web scrapping, Combing and merging data sets, Reshaping and pivoting, Data transformation, String Manipulation, and case study for web scrapping.

Unit 6: Model Development and Evaluation Introduction to machine learning- Supervised and Unsupervised Learning, Model development using Linear Regression, Model Visualization, Prediction and Decision Making, Model Evaluation: Over-fitting, Under-fitting, and Model Selection.

Suggested Readings:

1. Learning Python, by David Ascher and Mark Lutz, Publisher O'Reilly Media.

2. "Python Programming using Problem Solving approach", by Reema Thareja, Oxford University press

3. "Python for Data Analysis", by Wes Mckinney, First edition, Publisher O'Reilly Media.

4. Learning with Python, by Allen Downey, Jeffrey Elkner, Chris Meyers, Dreamtech Press

5. Data Analysis with Python: A Modern Approach, by David Taieb, 1st Edition, Packt Publishing

Teaching Learning Process:
The teaching-learning process may be interactive classroom sessions. It includes theoretical discussion and numerical problem-solving.

Assessment Methods:
Internal Examination (15 Marks): Internal Assessment may be conducted by using any one or in combinations of Class participation, Presentation, Project Writing and Presentation, Assignment and Presentation, and Surprise Test as suitable.

External Examination (35 Marks): End Semester Written Examination, Duration 2 Hours.

Course Name: Choose from the pool of Value-Added Courses offered in 4th semester

Course Code: VAC

Course Type: VA	Course Details: VAC-2			L-T-P: 4-0-0	
Credit: 4	Full Marks: 50	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		0	**15**	0	**35**