Course: BCA **Semester:** 1

Prerequisite: Basic Knowledge of LSRW. To provide students with soft skills that complement their skills, making them more marketable when entering the workforce.

Rationale : Knowledge of LSRW is essential for Students

Teaching and Examination Scheme

Teaching Scheme					Examination Scheme					Total
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Seminar Hrs/Week	Credit	Internal Marks			External Marks		
					T	CE	P	T	P	
2	-	-	-	2	-	100	-	-	-	100

SEE - Semester End Examination, **T** - Theory, **P** - Practical

Course Content

W - Weightage (%) , **T** - Teaching hours

Sr.	Topics	W	T
1	**Listening Skills and Hearing**Listening Vs Hearing Types of listening Traits of good listener Barriers of listening	7	2
2	**Listening Practice**Listening Practice (Audio & Video)	10	3
3	**Presentation Skills** Defining the purpose of presentation Presentation strategies How to make an effective presentation? Knowing /Analysing audience Organizing content and preparing an outline Traits of a good speaker	3	1
4	**Activity**Crazy Scientist	7	2
5	**Speaking Practice**Speaking practice (Elocution)	24	7
6	**Reading Skills** Define reading Reading Strategies Techniques of reading Techniques to read faster	3	1
7	**Reading Practice**Reading Practice (Reading Comprehension)	13	4
8	**Writing Skills** Develop Writing Skills 7cs of communication Techniques of writing better Identifying common errors in writing	10	3
9	**Paragraph Writing** Introduction of Paragraph Writing Central components of paragraph development Techniques for paragraph development	3	1
10	**Writing Practice**Writing Practice: Note making Picture Description Dialogue Writing Paragraph Writing Completion of story from given points	20	6

	Essay Writing		
	Total	**100**	**30**

Reference Books

1.	**Understanding and Using English Grammar** By Betty Azar & Stacy Hagen | Pearson Education
2.	**Business Correspondence and Report Writing** By SHARMA, R. AND MOHAN, K.
3.	**Communication Skills** By Kumar S And Lata P | New Delhi Oxford University Press
4.	**, Technical Communication : Principles And Practice** By Sangeetha Sharma, Meenakshi Raman | Oxford University Press
5.	**Practical English Usage** By MICHAEL SWAN
6.	**A Remedial English Grammar for Foreign Student** By F.T. WOOD
7.	**On Writing Well** By William Zinsser | Harper Paperbacks,2006 | 30th anniversary edition
8.	**Oxford Practice Grammar,** By John Eastwood | Oxford University Press

Course Outcome

After Learning the Course the students shall be able to:

After Learning the course, the students shall be able to:

1. Understand the importance of creative and critical thinking.
2. Develop four basic skills (LSRW)
3. Expand vocabulary with proper pronunciation.
4. Comprehend the basics of English grammar.
5. Read & write effectively for a variety of contexts.
6. Develop confidence in speaking skills.

Course: BTech **Semester:** 1

Prerequisite: Prior knowledge of Electronic Materials

Rationale : The "Rationale of Electronic Waste Management - Issues and Challenges" course likely delves into the growing concern surrounding electronic waste (e-waste) and the need for effective management strategies. The course aims to equip participants with the knowledge and skills needed to understand, address, and mitigate the environmental, social, and economic impacts of e-waste through effective management strategies.

Teaching and Examination Scheme

Teaching Scheme					Examination Scheme					Total
					Internal Marks			External Marks		
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Seminar Hrs/Week	Credit	T	CE	P	T	P	
3	-	2	-	4	20	20	20	60	30	150

SEE - Semester End Examination, **T** - Theory, **P** - Practical

Course Content

W - Weightage (%) , **T** - Teaching hours

Sr.	Topics	W	T
1	**Introduction to Electronic Waste from an Electronics Perspective**Introducing the concept of electronic waste (e-waste) and its significance within the context of electronics manufacturing and consumption., the unique challenges posed by electronic components and materials, such as printed circuit boards (PCBs), semiconductors, and hazardous substances like lead and mercury.	**25**	**10**
2	**Sensors for E-Waste MonitoringBiological Sensors (Biosensors) for E-Waste Monitoring**- Introduction to biosensors and bio receptors Design and fabrication of biosensors for detecting heavy metals and toxic substances in e-waste Case studies and examples of biosensors in e-waste monitoring, **Nanotechnology-based Sensors for E-Waste Monitoring-** Overview of nanomaterials and their applications in sensor technology, Nano sensors for detecting trace elements and nanoparticles in e-waste, Practical session on fabricating and testing nanotechnology-based sensors.	**35**	**17**
3	**E-Waste Tracking and Traceability**Importance of tracking and traceability systems in e-waste management Role of electronics systems (e.g., RFID, IoT, block chain) in e-waste tracking and supply chain management. , Case studies of successful e-waste traceability initiatives and their impact on recycling efficiency	**25**	**10**
4	**Emerging Technologies and Future Directions**Overview of emerging technologies and innovations in e-waste management, Role of artificial intelligence (AI), machine learning, and data analytics in optimizing e-waste recycling processes, Discussion on future directions and opportunities for leveraging electronics systems to address e-waste challenges	**15**	**8**
	Total	**100**	**45**

Reference Books

1.	**IoT-Based Smart Waste Management for Environmental Sustainability by Biswaranjan**
2.	**Environmental Sensors and Biosensors** By Robert Marks and Ashok Mulchandani
3.	**Nanotechnology for Environmental Engineering** By Chunlong Zhang and Jay Gregg

Course Outcome

After Learning the Course the students shall be able to:
After learning the course, the students will be able to: 1. Learn about innovative technologies and strategies that leverage electronics systems to mitigate the environmental and social impacts of e-waste accumulation and disposal 2. Learn about the design, fabrication, and deployment of sensor technologies to detect hazardous substances and assess environmental impacts associated with e-waste disposal. 3. To design e waste management system base on sensors 4. To understand the importance of e waste

List of Practical

1.	**Practical training in fabricating and testing nanotechnology-based sensors for e-waste monitoring**
2.	**Design and fabrication of electrochemical sensors for detecting heavy metals in e-waste samples**
3.	**Design and fabrication of biosensors for detecting heavy metals in e-waste samples**
4.	**Demonstration of IoT sensors and block chain technology for e-waste tracking and traceability**
5.	**Design and implementation of a sensor-based e-waste monitoring system for a specific scenario or location**

Course: BTech **Semester:** 1

Prerequisite: None

Rationale : The rationale behind studying statistics and probability lies in their fundamental roles in understanding uncertainty, making informed decisions, and drawing reliable conclusions from data.

Teaching and Examination Scheme

Teaching Scheme					Examination Scheme					Total
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Seminar Hrs/Week	Credit	Internal Marks			External Marks		
					T	CE	P	T	P	
4	-	-	-	4	-	-	-	60	-	100

SEE - Semester End Examination, **T** - Theory, **P** - Practical

Course Content

W - Weightage (%) , **T** - Teaching hours

Sr.	Topics	W	T
1	**Unit-1** Definition and Scope of Statistics, Statistical Population and Sample, Basic Methods of Sample Collection (Simple, Stratified and Cluster Sampling), Data Types (quantitative and qualitative), attributes, variables, and the scales of measurement (nominal, ordinal, interval, and ratio), Tabular presentation of data, graphical presentation of data (bar-char, line-chart, frequency-polygon, histogram, Steam and leaf plot, Scatter plot, ogive, pie-chart), consistency and independence of data (particularly with reference to attributes).	25	15
2	**Unit-2** Mathematical Measures of Central Tendency: Mean, Median, and Mode Positional Measures of Central Tendency: Percentiles, Quartiles Measures of Dispersion: Range, Quartile Deviation, Mean Deviation, Standard Deviation, Coefficient of Variation. Correlation and Simple Linear Regression.	25	15
3	**Unit-3** Introduction to Probability (Concept and importance Applications in various fields), Random Experiments (Definition and examples, Concept of uncertainty and outcomes), Sample Space (Definition and notation Determining sample space for different experiments), Events and Algebra of Events (Definition, Operations and Laws without proof), Definitions of probability, Conditional Probability (Definition, Notation, Interpretation, Calculation), Laws of addition and multiplication, Independent Event (Definition, Properties, Calculation of probability) Theorem of Total Probability (without proof), Bayes' Theorem (without proof).	25	15
4	**Unit-4** Standard discrete probability distributions: Binomial and Poisson (Definition, Parameter, Properties, Problems) Standard continuous probability distributions: Normal distribution (Definition, Properties, Standardization, Problems	25	15
	Total	100	60

Reference Books

1.	**Introduction to Probability** By P. G. Hoel, S. C. Port and C. J. Stone, | UBS Publishers,
2.	**Introduction to the Theory of Statistics,** By Mood, A.M. Graybill, F.A. and Boes, D.C., | Tata McGraw-Hill Pub. Co. Ltd. | 3rd Edn., (Reprint),
3.	**A text book of Engineering Mathematics** By N.P. Bali and Manish Goyal | Laxmi Publications
4.	**Fundamentals of Statistics,** By Goon A.M., Gupta M.K. and Dasgupta B., | The World Press, Kolkata. | Vol. I, 8th Edn.
5.	**Fundamentals of Mathematical Statistics (TextBook)** By Gupta, S.C. and Kapoor, V.K

Course Outcome

After Learning the Course the students shall be able to:

• Analyze the differences between statistical populations and samples, demonstrating comprehension of fundamental statistical concepts.
• Utilize an appropriate tool to present the data in tabular or graphical manner for better analysis and communication.
• Calculate measures of central tendency and dispersion, including mean, standard deviation, and quartiles.
• Analyze correlation and linear regression within the data of more than one random variable.
• Utilize concepts of probability to analyze uncertain events and make informed decisions.
• Apply probability distributions to make critical decisions in real world scenario.

Course: BCA **Semester:** 1

Prerequisite: Basic knowledge of Data and Data Processing

Rationale : To acquire the fundamental knowledge of basic database system concepts, normalization and SQL programming. To make students understand the database development activities, such as, data modeling, creation of databases and posing complex SQL queries during the system development cycle. Also, introduce the students to using and implementing database systems for certain commercial applications.

Teaching and Examination Scheme

Teaching Scheme					Examination Scheme					Total
					Internal Marks			External Marks		
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Seminar Hrs/Week	Credit	T	CE	P	T	P	
3	-	2	-	4	20	20	20	60	30	150

SEE - Semester End Examination, **T** - Theory, **P** - Practical

Course Content

W - Weightage (%) , **T** - Teaching hours

Sr.	Topics	W	T
1	**Introduction to Databases**BasicConcepts:Data,Database,Databasesystems,DBMS,Purpose of Database system, Characteristics of Database,Advantages and Disadvantages of DBMS,Database Languages, Three level architecture, Various components of a DBMS	12	6
2	**DataModel ,ER Diagram and Keys** **Data Model :** The importance of data models, Data Model Classification, Tables,Rows,Columns,Entitysets,Attributes,Typesofentities,Relationshipsandtypesof relationships, Database modelling using entity and relationships, Enhanced entity relationship diagrams. **Keys:**Super key, Candidatekeys, Primary key,Entity integrity constraints,Referential integrity constraints.	18	10
3	**DatabaseDesign** Structures of Good Database Design, Databasedesignprocess,Anomalies in A Database, Functionaldependencies (losslessdecomposition,dependencypreservance,closuresetof FD, canonical cover, lossless joins). **Normalization:**1NF,2NF,3NF,BCNFand4NF	20	10
4	**Query Processing and Transection** **Query Processing:**Query processing phases,Query optimization techniques,Measures Of Query Cost **Transection**: Transaction Concepts, Features of Database Transaction. Concurrency Control in Database - Lock Base, Time Stamp Base, Validation Base Protocols Database Recovery System.	25	9
5	**Structure QueryLanguages** IntroductiontoSQL,OverviewofSQL,BasicqueriesinSQL,AdvancedqueriesinSQL,FunctionsinSQL,Basicdata retrieval, Aggregation, Categorization, Updates in SQLs, Views in SQL, Different types of views, Theoretical updatability of views.	25	10
	Total	100	45

Reference Books

1.	**Database System Concepts** By Silberschatz, Korth, Sudarshan | McGraw Hill Publication | 4th Edition
2.	**Database Systems, Concepts, Design and Applications** By S K Singh | Pearson Edition
3.	**Database Management Systems** By Raghu Ramakrishnan, Johannes Gehrke | McGraw Hill Publication
4.	**Fundamentals of Database Systems** By Elmsari, Navathe | Pearson Education (2008) | 5th Edition

Course Outcome

After Learning the Course the students shall be able to:
1. Define and describe database concepts and models. 2. Identify need of relational database design. 3. Describe and apply normalization technique for database design. 4. Apply knowledge of database query language.

List of Practical

1.	**Design a Database and create required tables. For e.g. Bank, College Database**
2.	**Apply the constraints like Primary Key, Foreign key, NOT NULL to the tables.**
3.	**To Study a different DDL Commands like create, Drop ,Alter and Truncate**
4.	**To Study a different TCL Commands like commit, save point, Rollback etc.**
5.	**To Study a different DQL Commands.**
6.	**To Study a different DCL Commands.**
7.	**To Study a different Grouping Queries.**
8.	**To Study a different operators in SQL.**
9.	**Write the query for implementing the following functions: MAX(),MIN(),AVG(),COUNT()**
10.	**Write the queries to implement the joins.**

Course: BSW **Semester:** 1

Prerequisite: students will be able to gain the necessary knowledge and skills to navigate the complexities of NGO governance, resource mobilization, and program management.

Rationale : students will be able to gain the knowledge and skills to manage NGOs effectively, from resource mobilization to ethical program development, empowering them to contribute meaningfully to Indian communities.

Teaching and Examination Scheme

Teaching Scheme					Examination Scheme					Total
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Seminar Hrs/Week	Credit	Internal Marks			External Marks		
					T	CE	P	T	P	
4	-	-	-	4	20	20	-	60	-	100

SEE - Semester End Examination, **T** - Theory, **P** - Practical

Course Content

W - Weightage (%) , **T** - Teaching hours

Sr.	Topics	W	T
1	**Overview of NGO** NGOs: definition, Concept and Objectives Types of NGOs Evolution Of NGOs	15	10
2	**Role of NGOs in Social Development** NGO and social development Role of NGOs in civil society Issues in NGO	15	10
3	**Legal Procedures and Registration** Legal procedures for establishment of NGOs Registration procedure for NGO Tax Reliefs under various Acts	15	10
4	**Programme Planning** Planning Programmes and Working with the Community, Government and other stakeholders. Programme Planning and Project Proposals Programme Documentation	15	10
5	**Managing Resources** Human Resource Management Resource mobilization Financial management	20	10
6	**Project Management** Process Documentation Monitoring and Evaluation Difference Between Monitoring And Evaluation	20	10
	Total	100	60

Reference Books	
1.	**Corporate social responsibility: ethical and strategic choice** By Bhattacharya, J | Asian books
2.	**Managing For Change: Leadership, Strategy and Management in Asian NGOs.** By Ian Smillie, John Hailey | Earthscan Publications., Pub. Year 2000
3.	**Strategic Planning and Management of Nonprofit Organizations and NGOs Theory, Practice, Research and Cases.** By Deb Prasanna Choudhury | Asian Books, Pub. Year 2011
4.	**NON-GOVERNMENTAL ORGANIZATIONS: MANAGEMENT AND DEVELOPMENT** By David Lewis | Rotledge Taylor and Francis group | 3rd edition, Pub. Year 2014

Course Outcome

After Learning the Course the students shall be able to:

1) To define key terms related to NGOs, such as their meaning, objectives, and different classifications.
2) To differentiate between monitoring and evaluation, outlining the elements of a monitoring and evaluation plan for an NGO project.
3) To critically analyze the evolution of NGOs within different development frameworks and approaches
4) To develop managerial knowledge and skills specifically related to NGOs.
5) To develop and implement monitoring and evaluation frameworks to assess program effectiveness and impact.

Course: B.Com(Hons)(4 years) **Semester:** 1

Prerequisite: Foundational understanding of financial services, banking operations, and basic knowledge of insurance principles

Rationale : The course aims to provide a comprehensive understanding of digital banking, including its importance, various channels, products, and associated risks. It also covers topics related to cards, ATMs, payment systems, innovation in insurance, digital insurance management, governance, regulatory frameworks, and global perspectives on digital insurance.

Teaching and Examination Scheme

Teaching Scheme					Examination Scheme					Total
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Seminar Hrs/Week	Credit	Internal Marks			External Marks		
					T	CE	P	T	P	
4	-	-	-	4	20	20	-	60	-	100

SEE - Semester End Examination, **T** - Theory, **P** - Practical

Course Content

W - Weightage (%) , **T** - Teaching hours

Sr.	Topics	W	T
1	**Digital BankingDigital Banking:** Introduction to Digital Banking- need and importance of Digital Banking- Channels of Digital Banking- Digital Banking Products: Introduction and need for Digital Banking Products **Mobile Banking:** Overview and brief history of Mobile Banking- Product features & diversity of Mobile Banking- Immediate Payment Service (IMPS)- Risk Management & Frauds related to Mobile Banking- Benefits of providing Mobile Banking Services. **Internet Banking:** Overview and brief history of Internet Banking- its Products and their features- Corporate and Individual Internet Banking integration with e-Commerce Merchants- etc.- Types of Risks associated with Internet Banking- Technology and Security Standards for Internet Banking- Legal issues involved in Internet Banking	**25**	**15**
2	**CardsCards:** Overview of Cards and brief history of Cards- various types of Cards a bank provides to its customers EMV Technology: New Technologies such as Tap and Go- NFC etc.- Approval Processes for the issue of Cards- Benefits of Cards- and Recovery & Follow-Ups for Cards. **ATMs:** Overview and brief history of Automated Teller Machines (ATM)- Product features- Instant Money Transfer Systems- Proprietary- Brown Label- and White Label ATMs- various Value-Added Services (e.g.- bill payments- donations- etc.)- ATM Network Planning such as Onsite & Offsite- Security & Surveillance of ATM sites- Benefits of installing ATMs- Risk Management and Frauds related to ATMs. **Payment Systems:** Overview of Global Payment Systems- Overview of Domestic Payment Systems- RuPay & RuPay Secure- Immediate Payment Service – IMPS- National Unified USSD Platform i.e NUUP- RTGS- NEFT- National Automated Clearing House (NACH)- Aadhaar Enabled Payment System (AEPS) e-KYC- Cheque Truncation System or CTS- National Financial Switch (NFS).	**25**	**15**
3	**Innovation in InsuranceInnovation in Insurance**: Innovation and financial services- Levels of innovation – Digital insurance: Status of insurance companies - Strategic choices for insurance companies in the digital age – Challenges - Digital insurance as a new model for financial institutions - Protecting customers with better security - Effective and compliant insurance companies – 4 P's of digital insurance. **The Management of Digital Insurance:** A digital insurance model – customer perspective - Corporate digital insurance – drivers - Online-only insurance companies - The value of digital insurance - Critical success factors – Different models - Multigenerational view - Marketing digital insurance - Marketing mix – economics of digital insurance – SWOT – Fraud in digital insurance	**25**	**15**
4	**Governance and Regulatory FrameworkGovernance and Regulatory Framework**: Lean and Digitize project management – Data management – Security - Regulations for insurance organizations – IRDAI norms – Protection of policyholders - Support to compliance. **Digital Insurance Throughout the World:** Digital insurance across the world – Future of digital insurance: Application innovations (Artificial intelligence, Robotics process automation, Anticipatory computing, Social networks) - Technological innovation (Internet of things, Wearable technology) - Network innovations (5G networks, Web 2.0, Web 3.0)	**25**	**15**
	Total	**100**	**60**

Reference Books	
1.	**Digital Banking and Cyber Security** By Lohana Sarika R. | New Century Publications
2.	**Digital Payments in India: Background, Trends and Opportunities** By Singh Jaspal | New Century Publications
3.	**Digital Banking** By Indian Institute of Banking and Finance | Taxmann

Course Outcome

After Learning the Course the students shall be able to:

Course Learning Outcomes:
CLO 1 Demonstrate knowledge of various digital banking products and their features.
CLO 2 Assess the risks associated with mobile and internet banking and suggest risk management strategies.

CLO 3 Analyze the different types of cards, ATMs, and payment systems offered by financial institutions.

CLO 4 Evaluate the impact of digital innovations on the insurance sector and compliance with regulatory frameworks.

Course: BHMCT Hotel Mgmt **Semester:** 1

Prerequisite: The students should have the basic knowledge about the events management.

Rationale : The course provides theoretical knowledge about the concept of management in event sector.

Teaching and Examination Scheme

Teaching Scheme					Examination Scheme					Total
					Internal Marks			External Marks		
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Seminar Hrs/Week	Credit	T	CE	P	T	P	
4	-	-	-	4	20	20	-	60	-	100

SEE - Semester End Examination, **T** - Theory, **P** - Practical

Course Content

W - Weightage (%) , **T** - Teaching hours

Sr.	Topics	W	T
1	**NATURE & FUNCTIONS OF MANAGEMENT IN EVENTS**Importance, Definition, Functions in Events,Role of an Event Manager, Management Skills for event management.	10	6
2	**DEVELOPMENT OF MANAGEMENT THOUGHT**Early Classical Approaches, Neo Classical Approaches, Modern Approaches	8	4
3	**INTRODUCTION TO PLANNING & DECISION MAKING IN EVENTS**Nature & Importance of Planning,Types of Plans, Meaning of Decision,Types of Decisions, Steps in Rational Decision making	15	10
4	**CONCEPT OF ORGANISING IN EVENT**Concept, nature, significance of organizing, Formal and informal organization, Organization chart of event company, Types of organization, functional , Line and staff relationship, Delegation and Authority, Centralization and Decentralizatio, Recruitment – internal and external sources, Steps in the process of selection, recruitment Vs selection.	20	12
5	**DIRECTING & LEADING IN EVENTS**Meaning, nature, significance, characteristics of directing, chain of command, authority – responsibility-accountability relationship, Elements of Direction – supervision, communication, training and development, leadership, motivation, Leadership – meaning, importance, theories and styles, Communication – meaning, significance, types, process and barriers to communication, Supervision – Meaning, nature and significance of supervision.	15	10
6	**MANAGERIAL CONTROL IN EVENTS**Meaning of Managerial Control, Steps in Control Process, Need for Control System, Benefits of Control, Control Techniques.	18	10
7	**MOTIVATION**Meaning, nature and importance of motivation, morale incentives, Motivation and productivity relationship, Types of motivation, theories of motivation – Herzberg's hygiene-motivation (two factor) theory, Maslow's theory of need hierarchy, Mc Gregory's theory 'X' and theory 'Y'.	14	8
	Total	100	60

Reference Books

1.	**Principles of Management** By Tripathy PC and Reddy PN | Tata McGraw-Hill
2.	**Principles of Management** By BS Moshal
3.	**Special Events** By Joe Goldblatt
4.	**The Event Manager's Bible - The Complete Guide to Planning and Organising a Voluntary or Public Event** By D G Conway
5.	**Secrets to Successful Events** By Lynn Fuhler

Course Outcome

After Learning the Course the students shall be able to:
1. Understand & describe the functions of event management 2. Describe the managerial functions in events 3. Elaborate the importance of motivation & incentivization.

Course: BBA **Semester:** 1

Prerequisite: A basic approach to problem-solving methods

Rationale : Marketing studies gives a unique competitive advantage: You can learn how to promote yourself and your work. After all, marketing studies helps you understand the true meaning of value: The value of the product and the value of the person or brand that delivers said product.

Teaching and Examination Scheme

Teaching Scheme					Examination Scheme					Total
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Seminar Hrs/Week	Credit	Internal Marks			External Marks		
					T	CE	P	T	P	
4	-	-	-	4	20	20	-	60	-	100

SEE - Semester End Examination, **T** - Theory, **P** - Practical

Course Content

W - Weightage (%) , **T** - Teaching hours

Sr.	Topics	W	T
1	**Introduction to MarketingMarketing Management:** Introduction, Objectives, Scope, and Importance. Types of Market, Core Concepts of Marketing, Functions of Marketing, Marketing Orientations **Marketing Environment:** Introduction, Environmental Scanning, Techniques of Environment Scanning, Analyzing the Organization's Microenvironment, Company's Macro Environment, Differences between Micro and Macro Environment, Marketing Planning, and Implementation	**20**	**12**
2	**Segmentation, Targeting, and Positioning:** Introduction, Concept of Market Segmentation, Benefits of Market Segmentation, Requisites of Effective Market Segmentation, The Process of Market Segmentation, Bases for Segmenting Consumer Markets, Targeting- Meaning, Target market strategies, Market Positioning- Meaning, Positioning Strategies, Value Proposition, Differentiation Meaning, Strategies	**20**	**12**
3	**Channel & Promotion Decision:Channel Decision:** Channel Decision, Nature of Marketing Channels, Types of Channel flows, Channel functions, Functions of Distribution channels, Structure and Design of Marketing Channels, Channel co-operation, conflict and competition, Retailers, and wholesalers. **Promotion Decision:** Promotion mix, Advertising Decision, Advertising objectives, Advertising and Sales Promotion, Developing Advertising Program, Role of Media in Advertising, Advertisement effectiveness Salesforce Decision	**20**	**12**
4	**Buying Behaviors:Consumer buying behavior:** Introduction, Characteristics, Factors affecting Consumer behavior, Types of Buying Decision behavior, Consumer Buying Decision Process, Buying Motives, Buyer Behavior Models. **Business Buyer behavior:** Introduction, Characteristics of Business Markets, Differences between Consumer and Business Buyer Behavior, Buying Situations in Industrial/Business Market, Buying Roles in Industrial Marketing, Factors that Influence Business Buyer, Steps in Business Buying Process	**20**	**12**
5	**Understanding the Marketing-Information Systems (MKIS)**Introduction, Characteristics of MKIS, Benefits, Types, Components, Marketing Research	**20**	**12**
	Total	**100**	**60**

Reference Books	
1.	**Arun Kumar and N Menakshi: Marketing Management, Vikas Publishing, India (TextBook)**
2.	**Marketing Management** By Philip Kotler | Current
3.	**Marketing management** By Tapan panda | Excel Books
4.	**Marketing Management – A South Asian Perspective** By Kotler. Keller, Koshy and Jha | Pearson Education
5.	**Rajan Saxena: Marketing Management; Tata MC Graw-Hill (India Edition)**

Course Outcome

After Learning the Course the students shall be able to:
After Learning the Course, the students shall be able to: 1. List key elements of a marketing plan. 2. Explain the relationship between marketing and overall business strategy. 3. Develop a pricing strategy for a new product based on market research. 4. Evaluate market segmentation strategies for a diverse target market. 5. Assess the impact of a marketing campaign on brand equity and customer loyalty. 6. Design a comprehensive marketing plan for a company entering a new international market.

Course: BBA **Semester:** 1

Prerequisite: A basic understanding of mathematics and statistics, as well as proficiency in fundamental computer skills. Students are expected to have prior knowledge of spreadsheet applications and a basic understanding of business concepts. Familiarity with programming languages such as Python or R would be advantageous but not mandatory.

Rationale : The "Introduction to Data Analytics" course for BBA students provides a foundational understanding of data analytics, covering essential concepts such as types of data, data collection, preprocessing, and exploration. With a focus on statistical analysis and data visualization techniques, students gain practical skills for informed decision-making in business contexts. The inclusion of big data and emerging trends ensures students are equipped to navigate the evolving landscape of data analytics, fostering a competitive edge in a data-driven business environment.

Teaching and Examination Scheme

Teaching Scheme					Examination Scheme					Total
					Internal Marks			External Marks		
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Seminar Hrs/Week	Credit	T	CE	P	T	P	
4	-	-	-	4	20	20	-	60	-	100

SEE - Semester End Examination, **T** - Theory, **P** - Practical

Course Content

W - Weightage (%) , **T** - Teaching hours

Sr.	Topics	W	T
1	**Introduction to Data Analytics**Basic of data analytics types of data and data sources, data collection and preprocessing overview of data analytics tools and technologies	20	12
2	**Exploratory data analysis**Descriptive statistics and data visualization, data cleaning and outlier detection. Exploiting patters and trends in data. Introduction to statistical concept in data analysis	20	12
3	**Statistical analysis for data analytics**Probability and distribution, hypothesis testing and confidence interval, correlation and regression analysis	20	12
4	**Data visualization and communication**Advanced data visualization techniques, dashboard creation, design and interactive visualization. Communication insights from data ethical consideration in data visualization	20	12
5	**Big data and future trends**Introduction to big data and challenges Data storage and processing technologies (e.g Hadoop, spark) Emerging trends in data analytics (e.g AI IoT) Ethical and privacy considerations in big data analytics	20	12
	Total	100	60

Reference Books

1.	**Data Science For Dummies** By 2nd Edition, By Lillian Pierson, Jake Porway
2.	**James, G., Witten, D., T., Tibshirani, R. An Introduction to statistical learning with applications in R. Springer. 2013 (TextBook)**
3.	**Information dashboard design** By Stephen Few
4.	**Big Data: Concepts, Technology and Architecture By Balamarugan Balusamy, Nandhini Abirami R, Seifedine Kadry and Amir Gandomi, Wiley Publication**

Course Outcome

After Learning the Course the students shall be able to:

Course Outcomes:
1. Develop a comprehensive understanding of the basics of data analytics, including types of data, data sources, and the importance of data preprocessing.
2. Apply descriptive statistics and data visualization techniques to explore and interpret patterns and trends within datasets.
3. Understand fundamental statistical concepts for data analytics, including probability, distribution, hypothesis testing, and confidence intervals.
4. Understand the importance of effectively communicating insights from data and consider ethical considerations in data visualization.
5. Gain insights into big data concepts, challenges, and the technologies used for data storage and processing (e.g., Hadoop, Spark).5. Understand the ethical considerations involved in data analytics, particularly in the context of big data.

Miscellaneous

Useful Links

Reference Books
1. Data science for business by foster provost and tom Fawcett
2. An introduction to statistical learning by gareth james, Daniel witten trevor hastie and roberttibshirani
3. Information dashboard design by Stephen few
4. Big data : a revolution that will transform how we live,work and think by viktor mayuer

Course: BBA **Semester:** 1

Prerequisite:

Rationale : -

Teaching and Examination Scheme

Teaching Scheme					Examination Scheme					Total
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Seminar Hrs/Week	Credit	Internal Marks			External Marks		
					T	CE	P	T	P	
4	-	-	-	4	20	20	-	60	-	100

SEE - Semester End Examination, **T** - Theory, **P** - Practical

Course Content

W - Weightage (%) , **T** - Teaching hours

Sr.	Topics	W	T
1	**Introduction to Entrepreneurship**Concept, Evolution & Types of Entrepreneurs, Entrepreneur vs. Manager vs. Intrapreneur, Characteristics and Skillsof an Entrepreneur, Importance of Entrepreneurship in Indian Economy, Entrepreneurial Mindset & Motivation Theories, Role of Entrepreneurship in Self-Reliant India (Atmanirbhar Bharat)	**12**	**20**
2	**Indian Startup Ecosystem**Overview of Startup India, Make in India, Digital India, Government Schemes & Support Systems (SIDBI, MSME, DPIIT-recognition), Startup Incubation & Acceleration in India (e.g., T-Hub, Atal Incubation Centers), Role of Educational Institutions in Entrepreneurship Development, Regulatory Requirements: Startup registration, DPIIT, GST, IP Rights	**20**	**12**
3	**Opportunity Identification & Business Model Development**Idea Generation Techniques & Design Thinking, Feasibility Study and Market Research, Business Model Canvas (BMC), Lean Startup Methodology & MVP Development, Digital Platforms for Startups (e.g., ONDC, GEM, MeitY initiatives)	**20**	**12**
4	**Funding & Financial Management for Startups**Boot strapping, Angel Investors, Venture Capital, Angel Investors V/S Venture Capitalist and Crowdfunding, Government Funding Initiatives (e.g., Startup India Seed Fund, MUDRA), Basics of Startup Valuation & Pitch Deck Statements and Budgiting, Legal and Taxation Compliance for Startups (Startup India recognition benefits)	**20**	**12**
5	**Growth, Scaling & Exit Strategies**Scaling Startups: Product-Market Fit to Expansion, Challenges in Managing Growth (HR, Tech, Customer Support), Branding and Digital Marketing for Indian Startups, Exit Strategies: IPO, Merger & Acquisition, Entrepreneurial Failures and Lessons Learned	**20**	**12**
	Total	**92**	**68**

Course: BBA **Semester:** 1

Prerequisite: A basic approach to problem-solving methods

Rationale : Marketing studies give you a unique competitive advantage: you can learn how to promote yourself and your work. After all, marketing studies help you understand the true meaning of value: the value of the product and the value of the person or brand that delivers said product.

Teaching and Examination Scheme

Teaching Scheme					Examination Scheme					Total
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Seminar Hrs/Week	Credit	Internal Marks			External Marks		
					T	CE	P	T	P	
4	-	-	-	4	20	20	-	60	-	100

SEE - Semester End Examination, **T** - Theory, **P** - Practical

Course Content

W - Weightage (%) , **T** - Teaching hours

Sr.	Topics	W	T
1	**Introduction to MarketingMarketing Management:** Introduction, Objectives, Scope, and Importance. Types of Market, Core Concepts of Marketing, Functions of Marketing, Marketing Orientations **Marketing Environment:** Introduction, Environmental Scanning, Techniques of Environment Scanning, Analyzing the Organization's Microenvironment, Company's Macro Environment, Differences between Micro and Macro Environment, Marketing Planning, and Implementation	**20**	**12**
2	**Segmentation, Targeting, and Positioning:** Introduction, Concept of Market Segmentation, Benefits of Market Segmentation, Requisites of Effective Market Segmentation, The Process of Market Segmentation, Bases for Segmenting Consumer Markets, Targeting- Meaning, Target market strategies, Market Positioning- Meaning, Positioning Strategies, Value Proposition, Differentiation Meaning, Strategies	**20**	**12**
3	**Channel & Promotion DecisionChannel Decision:** Channel Decision, Nature of Marketing Channels, Types of Channel flows, Channel functions, Functions of Distribution channels, Structure and Design of Marketing Channels, Channel co-operation, conflict and competition, Retailers, and wholesalers. **Promotion Decision:** Promotion mix, Advertising Decision, Advertising objectives, Advertising and Sales Promotion, Developing Advertising Program, Role of Media in Advertising, Advertisement effectiveness Salesforce Decision	**20**	**12**
4	**Buying BehaviorsConsumer buying behavior:** Introduction, Characteristics, Factors affecting Consumer behavior, Types of Buying Decision behavior, Consumer Buying Decision Process, Buying Motives, Buyer Behavior Models. **Business Buyer behavior:** Introduction, Characteristics of Business Markets, Differences between Consumer and Business Buyer Behavior, Buying Situations in Industrial/Business Market, Buying Roles in Industrial Marketing, Factors that Influence Business Buyer, Steps in Business Buying Process	**20**	**12**
5	**Understanding the Marketing-Information Systems (MKIS)Understanding the Marketing-Information Systems (MKIS):** Introduction, Characteristics of MKIS, Benefits, Types, Components, Marketing Research	**20**	**12**
	Total	**100**	**60**

Reference Books	
1.	**Marketing Management – A South Asian Perspective** By Kotler. Keller, Koshy and Jha | Pearson Education
2.	**Marketing Management** By Philip Kotler | Current
3.	**Marketing management** By Tapan panda | Excel Books
4.	**Cases in marketing management.** By M.L. Bhasin
5.	**Marketing Management** By Arun Kumar, N. Meenakshi | Vikas Publishing House
6.	**Rajan Saxena: Marketing Management; Tata MC Graw-Hill (India Edition)**

Course Outcome

After Learning the Course the students shall be able to:
After Learning the Course, the students shall be able to: 1. List key elements of a marketing plan. 2. Explain the relationship between marketing and overall business strategy. 3. Develop a pricing strategy for a new product based on market research. 4. Evaluate market segmentation strategies for a diverse target market. 5. Assess the impact of a marketing campaign on brand equity and customer loyalty. 6. Design a comprehensive marketing plan for a company entering a new international market.

Course: BBA **Semester:** 1

Prerequisite: Basic understanding of organizational structures, teamwork, and communication.

Rationale : To equip learners with essential managerial and leadership skills for effective team and organizational success

Teaching and Examination Scheme

Teaching Scheme					Examination Scheme					Total
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Seminar Hrs/Week	Credit	Internal Marks			External Marks		
					T	CE	P	T	P	
4	-	-	-	4	20	20	-	60	-	100

SEE - Semester End Examination, **T** - Theory, **P** - Practical

Course Content

W - Weightage (%) , **T** - Teaching hours

Sr.	Topics	W	T
1	**Overview of Management:** Definition, characteristics, and extent of management Key managerial functions; foundational principles; various management styles The three core elements of management; influencing factor Importance and role of management.	20	12
2	**Managerial Efficiency:** The responsibilities and influence of a manager, Essential management skills, leadership and teamwork qualities, Effective communication abilities, decision-making capabilities, Problem-solving techniques, Manager's role in motivating the team.	20	12
3	**Exploring the Concept of Leadership:** Definition, characteristics, and range of leadership; key functions performed by leaders; fundamental principles guiding leadership; various leadership styles; Elements influencing leadership effectiveness; and the necessity and significance of leadership.	20	12
4	**Fundamental Skills for Successful Leadership:** Attributes that make an effective leader Core leadership abilities such as personal traits, strategic thinking, managing time efficiently, collaborating with teams, and embracing risks The role of communication and attentive listening Key differences between the roles of a manager and a leader	20	12
5	**Management through Leadership** The interplay between power, authority, and leadership in guiding organizations Strategies for effectively managing workforce diversity Influence of age and experience on organizational roles and decision-making Development of leadership abilities through mentoring and training programs The significance of emotional intelligence in leadership effectiveness Gender-related coping mechanisms and their impact in the workplace	20	12
	Total	100	60

Course Outcome

After Learning the Course the students shall be able to:
Explain the foundational concepts, scope, and importance of management and leadership
Demonstrate effective managerial skills such as communication, decision-making, problem-solving, and team motivation.
Compare and evaluate various leadership and management styles and analyze their influence on organizational effectiveness
Differentiate the functions of managers and leaders, and assess their respective contributions to individual and team performance

Course: BBA **Semester:** 1

Prerequisite: Basic knowledge of mathematics and Business Activities

Rationale : Financial accounting as a discipline has evolved over the years due to the perennially changing requirements of the industry. With the advent of computerization, it now also encompasses new techniques and new issues caused by changes in legislation pertaining to the preparation and publication of financial statements.

Teaching and Examination Scheme

Teaching Scheme					Examination Scheme					Total
					Internal Marks			External Marks		
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Seminar Hrs/Week	Credit	T	CE	P	T	P	
4	-	-	-	4	20	20	-	60	-	100

SEE - Semester End Examination, **T** - Theory, **P** - Practical

Course Content

W - Weightage (%) , **T** - Teaching hours

Sr.	Topics	W	T
1	**Introduction to Accounting**Accounting Evolution, Significance, Accounting Principles, Concepts &Conventions, GAAP, Overview of International Accounting Standards, Accounting Equation, Concept of Capital and Revenue, Types of Accounts, Rules of Debit and Credit	15	12
2	**Accounting Cycle**Recording of Transactions – Preparation of Journal, Ledger, Trial Balance and Closing Entries including Numerical. Preparation of Financial Statements: Trading and P & L Account and Balance Sheet-Concepts, Format of P&L A/C and Balance Sheet with Adjustments (Vertical &Horizontal Formats), including Numericals	25	12
3	**Financial Statements**Concept of final A/Cs, their need and necessity, preparation of final A/Cs without adjustments, adjustments in final A/Cs, need and necessity, final A/C with adjustment, Numerical problem	20	12
4	**Treatment of Depreciation**Concept, Meaning, Nature, Causes of Depreciation and Other Related Terms. Methods of Depreciation: SLM and WDV Methods including Numerical.	20	12
5	**Contemporary Issues of Accounting (Only Theory)**Green Accounting, Human Resource Accounting, Inflation Accounting, Economic Value Added, Forensic Accounting	20	12
	Total	100	60

Reference Books

1.	**Introduction to accountancy** By T.S. Grewal & S.C. Gupta | S.CHAND PUBLICAITON
2.	**MODERN ACCOUNTANCY** By HANIF MUKHARJEE | TMH
3.	**Advanced Accountancy Vol II** By S. N. Maheshwari & S. K. Maheshwari | Vikas Publishing House
4.	**Financial Accounting (TextBook)** By Tulsian P. C. | Pearson Education
5.	**Accounting for managers (TextBook)** By J.made Gowda | himalaya publishing house

Course Outcome

After Learning the Course the students shall be able to:

1. To help prepare financial statements in accordance with appropriate standards.
2. To interpret the business implications of financial statement information.
3. To employ critical thinking skills to analyze financial data as well as the effects of differing financial accounting methods on the financial statements.
4. To effectively define the needs of the various users of accounting data
5. Demonstrate the ability to communicate such data effectively,
6. Ability to provide knowledgeable recommendations.

Course: BBA **Semester:** 1

Prerequisite: Having knowledge about general economics theories

Rationale : Managerial economics is a critical subject for business students and managers as it provides them with the tools and concepts necessary to make informed and rational decisions in a business environment. It combines economic principles with managerial decision-making to analyze and solve real-world business problems, such as pricing strategies, production planning, resource allocation, and market analysis. By studying managerial economics, individuals can enhance their ability to optimize resources, maximize profits, and effectively navigate the complexities of the business landscape.

Teaching and Examination Scheme

Teaching Scheme					Examination Scheme					Total
					Internal Marks			External Marks		
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Seminar Hrs/Week	Credit	T	CE	P	T	P	
4	-	-	-	4	20	20	-	60	-	100

SEE - Semester End Examination, **T** - Theory, **P** - Practical

Course Content

W - Weightage (%) , **T** - Teaching hours

Sr.	Topics	W	T
1	**Introduction** Definition and scope of economics Basic economic concepts: scarcity, opportunity cost, marginal analysis Types of economies: market economy, command economy, mixed economy Role of individual choice and decision-making in economics Law of demand and law of supply Elasticity of demand and supply Consumer behaviour: utility, budget constraint, indifference curves Consumer surplus	**20**	**12**
2	**Market Structures and Theories** Perfect competition: characteristics, equilibrium, efficiency Monopoly: characteristics, pricing strategies, efficiency and market power Monopolistic competition: characteristics, product differentiation, excess capacity Oligopoly: characteristics, interdependence, collusion, game theory Factors affecting market structure: barriers to entry, economies of scale Theory of rent, interest, profit and wages	**20**	**12**
3	**Macroeconomic Fundamentals** Introduction to macroeconomics and its importance Macroeconomic goals: economic growth, full employment, price stability Measuring economic activity: GDP, GNP, GNI, unemployment rate, inflation rate Aggregate demand and aggregate supply: components and determinants Definition and functions of money, stocks of money, credit creation by commercial banks	**20**	**12**
4	**Macroeconomic Models and Policies** Keynesian economics: consumption, saving, investment, multiplier effect Market self-regulation, neutrality of money Aggregate demand and supply equilibrium: short run and long run Business cycles: phases, causes, implications International trade and exchange rates: balance of payments, trade deficits, currency systems Monetary policy: central bank, money supply, interest rates, tools of monetary polic Fiscal policy: government spending, taxation, budget deficit, budget surplus	**20**	**12**
5	**Managerial Economics and Decision Making** Nature and scope of managerial economics Demand analysis: demand elasticity, factors affecting demand Production analysis: production function, economies of scale, cost minimization	**20**	**12**

	Production and costs: production function, short-run and long-run costs Cost analysis: types of costs, cost-output relationships Pricing strategies: pricing under different market structures, pricing policie Decision making under uncertainty: risk and uncertainty, decision trees, expected utility theory		
	Total	**100**	**60**

Reference Books

1.	**–Microeconomic Theory (TextBook)** By Ahuja, H.L.
2.	**Andrew B. Abel and Ben S. Bernanke, Macroeconomics, Pearson Education, Inc., 7th edition,**
3.	**Macroeconomics** By D N DWIVEDI | Vikas Publication
4.	**Microeconomics (TextBook)** By H L AHUJA | S CHAND & CO | LATEST
5.	**MANAGERIAL ECONOMICS (TextBook)** By G.S.GUPTA | TATA McGRAW HILL
6.	**Managerial Economics (TextBook)** By D.M. Mithani | Himalaya Publications; Seventh Edition edition

Course Outcome

After Learning the Course the students shall be able to:
After attending the course student can: 1. Define the fundamental concepts of economics. 2. Evaluate production and cost decisions using economic models. 3. Determine optimal pricing and output decisions under different market structures. 4. Apply the concept of cost and price and the relationship between them to determine the profit of the organization.

Course: B.Sc. **Semester:** 1

Prerequisite: Shall have the basic knowledge about environmental studies

Rationale : Will understand the basic interface between climate change and sustainability.

Teaching and Examination Scheme

Teaching Scheme					Examination Scheme					Total
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Seminar Hrs/Week	Credit	Internal Marks			External Marks		
					T	CE	P	T	P	
2	-	-	-	2	20	20	-	60	-	100

SEE - Semester End Examination, **T** - Theory, **P** - Practical

Course Content

W - Weightage (%) , **T** - Teaching hours

Sr.	Topics	W	T
1	**Unit 1 : Introduction to Climate Change**Global Climate System Climate Change: Causes and Consequences: Global warming, ozone layer depletion, acid rain, and greenhouse effect case studies: nuclear accidents, chemical disasters, and climatic episodes	33	10
2	**Unit 2: Sustainable Development:**Sustainable Development Goals: An overview Climate Change and Sustainable Development: National and State Policies Achieving Sustainable Development Goals: Role of Various Stakeholders Building Partnership for Climate Change and Sustainable Development	34	10
3	**Unit 3 : Sustainable Approach to Climate Change:**Energy Conservation: Use of Renewable energies: Water, Solar, Wind, Tidal, Geothermal Water conservation techniques: Rain Water Harvesting. Environmental Ethics & Public Awareness: Role of various religions and cultural practices in environmental conservation Sustainable Human Development.	33	10
	Total	100	30

Reference Books

1.	**Climate Change and Sustainable Development: Prospects for Developing Countries** By Anil Markandya, Kirsten Halsnæs
2.	**Climate Change and Sustainable Development Global Prospective** By R.K.Mishra, P.s.Janki Krishna & CH. Laskhmi Kumar
3.	**This Changes Everything: Capitalism vs The Climate** By Naomi Klein
4.	**The Uninhabitable Earth: Life After Warming (TextBook)** By David Wallace-Wells

Course Outcome

After Learning the Course the students shall be able to:

1. Identify the complexity and operations of governance systems and processes on international, national, and local levels.
2. Explain the differences between government and governance and the various ideas and meanings attached to the goal of sustainable development.
3. Critically analyze policy-making processes in regard to sustainability issues.
4. Apply high-quality written and verbal communication skills
5. Work effectively in a team and in tutorial or workshop situations

Course: BTech **Semester:** 1

Prerequisite: Basic numeracy skill

Rationale : Mathematical aptitude refers to the ability to reason, think critically, and apply mathematical principles to solve problems and make sense of the world around us.

Teaching and Examination Scheme

Teaching Scheme					Examination Scheme					Total
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Seminar Hrs/Week	Credit	Internal Marks			External Marks		
					T	CE	P	T	P	
2	-	-	0	2	20	20	-	60	-	100

SEE - Semester End Examination, **T** - Theory, **P** - Practical

Course Content

W - Weightage (%) , **T** - Teaching hours

Sr.	Topics	W	T
1	**Unit-1**Numbers, HCF & LCM, Square Root & Cube Root, Ratio & Proportion, Permutations & Combinations, Percentage, Average-Shortcut averages, Partnership, Time -work & distance, Boats & streams, Mixtures, Logarithms	40	12
2	**Unit-2**Progression (AM, GM, HM), Series, Interest (S.I. & C.I.) and depreciation rate, Profit-Loss & Discount, Equations (Linear & Quadratic), Probability.	40	12
3	**Unit-3**Mensuration I (Area & Perimeter), Mensuration II(Volume & Surface area), Grouped Data, Ungrouped Data (Mean and Standard Deviation) Data interpretation: (Tabulation, Bar Graph, Pie Chart, Line Chart).	20	6
	Total	100	30

Reference Books

1.	**Quantitative Aptitude for Competitive Examinations (TextBook)** By D. Khattar | Person Indian Education Service
2.	**Verbal Reasoning and Non - Verbal Reasoning (TextBook)** By B. S. Sijwali and Indu Sijwali | New Delhi: Arihant
3.	**Quantitative Aptitude for Competitive Examinations** By R. S. Aggarwal | S. Chand Publishing,

Course Outcome

After Learning the Course the students shall be able to:

After completion of the course, Students will be able to,
1. Analyse and interpret mathematical problems, devise appropriate strategies, and apply relevant mathematical concepts and techniques to find solutions.
2. Comprehend and manipulate numerical information effectively, make accurate calculations, and interpret numerical data in various contexts.
3. Think critically and logically, recognize patterns and relationships, and construct logical arguments using mathematical principles.
4. Apply these concepts and techniques to solve real-world situations.