TELANGANA UNIVERSITY

M.Com. (E-Commerce) SYLLABUS

w.e.f. Academic Year 2026-2027

FACULTY OF COMMERCE
TELANGANA UNIVERSITY
NIZAMABAD – 503 322, T.S.

M.Com (E-Commerce)							
SEMESTER -I							
S.No	**Type**	**Title of the Paper**	**Credits**	**HPW**	**CA**	**ESE**	**Marks**
1	DSC	Organizational Theory and Behaviour	4	5	40	60	100
2	DSC	Financial Management	4	5	40	60	100
3	DSC	Fundamentals of Marketing and Digital Marketing	4	5 (3+2)	40	40+20	100
4	DSC	Business Applications and Programming	4	5 (3+2)	40	40+20	100
5	VAC	Sustainable Development	2	2	-	50	50
6	IDC	Artificial Intelligence	2	3	20	30	50
		Total	**20**	**25**			**500**
SEMESTER -II							
S.No	**Type**	**Title of the Paper**	**Credits**	**HPW**	**CA**	**ESE**	**Marks**
1	DSC	Managerial Economics	4	5	40	60	100
2	DSC	Human Resource Management	4	5	40	60	100
3	DSC	Business Environment and International Business	4	5	40	60	100
4	DSC	E-Commerce and E-Banking	4	5 (3+2)	40	40+20	100
5	SEC	Database Management System	4	5 (3+2)	40	40+20	100
6	VAC	Quantum Techniques	2	3	20	30	50
		Total	**22**	**28**			**550**
SEMESTER -III							
S.No	**Type**	**Title of the Paper**	**Credits**	**HPW**	**CA**	**ESE**	**Marks**
1	DSC	Research Methodology & Statistical Analysis	4	5	40	60	100
2	DSC	Web Technologies	4	5 (3+2)	40	40+20	100
3	DSE	a) Securities Analysis and Portfolio Management b) Advanced Corporate Accounting c) Service Marketing	4	5	40	60	100
4	DSE	a) International Financial Management b) Accounting for Service Organizations c) Consumer Behaviour	4	5	40	60	100
5	OEC	Enterprise Resource Planning	4	5 (3+2)	40	40+20	100
6	Int.	Internship/Apprenticeship/MOOCS/VC	2	2	-	50	50
		Mentorship/ECA	2	2		50	50
		Total	**24**	**29**			**600**
SEMESTER -IV							
S.No	**Type**	**Title of the Paper**	**Credits**	**HPW**	**CA**	**ESE**	**Marks**
1	DSC	Corporate Tax Planning and Management	4	5	40	60	100
2	DSC	Business Analytics Using Python and Power Bi	4	5 (3+2)	40	40+20	100
3	DSE	a) Financial Derivatives b) Advanced Cost Accounting and Control c) Supply Chain Management	4	5	40	60	100
4	DSE	a) Financial Markets and Services b) Accounting for Management c) Customer Relationship Management	4	5	40	60	100
5	RP	Research Project Report (100) + Viva (50)	6	6	-	150	150
		Total	**22**	**26**			**550**

DSC: Discipline Specific Course

AI: Artificial Intelligence

ESE: End Semester Examination

VAC: Value Added Course

QT: Quantum Techniques

Int. Internship

ECA: Extra Curricular Activities

RM: Research Methodology

VAC: Value – Added Course

CA: Continuous Assessment

IDC: Inter Disciplinary Course

SEC: Skill Enhancement Course

DSE: Discipline Specific Elective

OEC: Open Elective Course

VC: Vocational Course

RP: Research Project

Note:

1. Two Practical lab hour work is equal to one instruction hour.
2. The students are instructed to opt any electives with minimum strength of five.
3. Project Work has to be undertaken as per the project guidelines. A student who does not complete Project in time and does not pass Viva – Voce exam, he/she is not eligible to get the degree.
4. 40% of the Evaluation is based on Continuous Assessment (CA) and 60% on End Semester Examination (ESE).
5. A Student has to secure at least 40% marks in the End Semester Examination to pass the papers.
6. Department conducts Seminars, Micro presentations and Guest lectures by the External faculty and Industry Experts, for the benefit of students which they attend without fail.
7. Project Work of the Students would be evaluated by 100 marks for report and 50 marks for viva-voce.

PROGRAMME OUTCOMES (POs)

On completion of the M.Com. (E-Commerce) programme, students will be able to:

PO	Programme Outcome
PO1	Apply core and advanced concepts of commerce, management and e-commerce to analyse and solve business problems.
PO2	Demonstrate critical thinking, analytical and quantitative reasoning skills for effective managerial decision-making.
PO3	Utilise contemporary digital tools, technologies and information systems for business and e-commerce operations.
PO4	Communicate effectively and present business information, reports and analysis to diverse stakeholders.
PO5	Apply ethical, legal, social and professional standards in business, financial and technological practice.
PO6	Conduct research, interpret data and adopt evidence-based approaches to address business and organisational problems.
PO7	Exhibit leadership, teamwork and entrepreneurial competence in organisational and business contexts.
PO8	Adapt to dynamic, global and technology-driven business environments, including sustainability and emerging trends.

Note: *3 = High correlation, 2 = Medium correlation, 1 = Low correlation, and – = No correlation.*

Question Paper Pattern for Theory Paper

Code No.

FACULTY OF COMMERCE

M.Com (E-COMMERCE) (CBCS) – SEMESTER EXAMINATIONS

PAPER

Time: 3 Hours Max. Marks: 60

Section – A (4x3=12)

(Short Answer Type)

Answer these questions at one place only

1. UNIT-I
2. UNIT-II
3. UNIT-III
4. UNIT-IV

Section – B

(Essay Answer Type) (4x12=48)

Answer the following questions in not exceeding 90 lines each

5. a). UNIT-I

   (OR)

   b). UNIT-I

6. a) UNIT-II

   (OR)

   b) UNIT-II.

7. a) UNIT-III

   (OR)

   b) UNIT-III

8. a) UNIT-IV

   (OR)

   b) UNIT-IV

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Question Paper Pattern for Computer Related Paper

Code No.

FACULTY OF COMMERCE

M.Com (E-COMMERCE) (CBCS) – SEMESTER EXAMINATIONS

PAPER

Time: 3 Hours Max. Marks: 40

Section – A (4x3=12)

(Short Answer Type)

Answer these questions at one place only

1. UNIT-I
2. UNIT-II
3. UNIT-III
4. UNIT-IV

Section – B

(Essay Answer Type) (4x7=28)

Answer the following questions in not exceeding 90 lines each

5. a). UNIT-I

   (OR)

   b). UNIT-I

6. a) UNIT-II

   (OR)

   b) UNIT-II.

7. a) UNIT-III

   (OR)

   b) UNIT-III

8. a) UNIT-IV

   (OR)

   b) UNIT-IV

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EXAM PATTERN FOR CONTINUOUS ASSESSMENT (CA)

CONTINUOUS ASSESSMENT – I-TEST (OFFLINE) – 40 Marks

Section – A (10 × 1 = 10 Marks) (Multiple Choice Questions)	=	10 Marks
Section – B (10 × 2 = 20 Marks) (Short Answer Questions)	=	20 Marks
Assignment	=	05 Marks
Seminar	=	05 Marks

CONTINUOUS ASSESSMENT – II-TEST (COMPUTER BASED TEST) – 40 Marks

Multiple Choice Questions (20 × 2 = 40 Marks)

S. No.	Component	Maximum Marks
1	I-Test (Offline)	40
2	II-Test (CBT)	40
	Total Weightage	**40 Marks**

Note: The average of the I-Test and II-Test scores shall be considered to a common scale of 40 marks.

M.Com. (E-Com) - SEMESTER-I
ORGANISATIONAL THEORY AND BEHAVIOUR

Paper Code: DSC101 **Exam Duration- 3Hours**
Credits: 4 **Maximum Marks: 100(40+60)**
PPW:5

OBJECTIVE: To familiarize the students with the concept of organization theory and apply social science concepts to organization behaviour.

Course Outcomes (COs)
On successful completion of this course, students will be able to:
CO1: Understand the concepts, theories and structural design of organisations.
CO2: Analyse individual and group behaviour, including personality, perception and group dynamics, with in organisations.
CO3: Apply theories of motivation, morale and leadership to improve employee and organisational performance.
CO4: Evaluate organisational effectiveness and assess strategies for managing change and culture.

UNIT I – INTRODUCTION TO ORGANISATION THEORY
Concept of Organisation – Features of Organisation – Types of Organisations – Organisation Goals – Organisation stakeholders: Concept of Organisation Theory – Types of Organization Theories – Traditional Theories: Classical Organisation Theory – Neo-classical Organisation Theory - Bureaucratic Theory– Modern Organisation Theories: Human Relation Approach – System Approach – Contingency Approach.

Concept of Organisation Structure – Need and Role of Formal Organisation Structure – Features of Good Organisation Structure - Organisation Design – Contingent Factors in Organisation Design – Mechanism for Designing Structure – Process in Designing Structure – Types of Organisational Structural Designs.

UNIT II – INDIVIDUAL AND GROUP DIMENSIONS OF ORGANISATIONAL BEHAVIOUR
Concept of Organizational Behaviour – Role of Organisational Behaviour – Characteristics of Organisational Behaviour – Models of Organisational Behaviour – Foundation of Individual Behaviour – Individual Differences – Psychological Factors Affecting Human Behaviour: Personality – Perception – Learning – Attitudes and Values - Models of Man.

Concept of Group Dynamics – Types of Groups – Theories of Group Formation – Group Cohesiveness – Factors Affecting Group Cohesiveness – Group Decision Making – Positive and Negative Aspects of Group Decision Making – Techniques for Improving Group Decision Making.

UNIT III – MOTIVATION, MORALE AND LEADERSHIP
Motivation: Meaning – Nature – Types – Importance of Motivation - Theories of Motivation: Maslow's Need Hierarchy Theory – Herzberg's Motivation Theory – Mc Gregor's Theory X and Theory Y - Mc Clelland's Need Theory of Motivation.
Morale: Meaning – Factors Influencing Morale – Morale and Motivation – Morale and Productivity.
Leadership: Meaning – Nature and Characteristics – Leadership Styles: Autocratic – Laissez – faire – Democratic – Paternalistic – Managerial Grid – Leadership Continuum – Theories of Leadership.

UNIT IV – ORGANISATIONAL EFFECTIVENESS, CHANGE AND CULTURE
Effectiveness: Meaning – Effectiveness and Efficiency – Approaches to Effectiveness – Factors Affecting Organisational Effectiveness.
Change: Meaning – Forces for Change – Types of Change – Changes Process – Human Reactions to Change – Causes of Resistance to Change – Overcoming Resistance toChange
Culture: Meaning – Characteristics – Functions and Dysfunctions of Culture – Changing Organizational Culture.

SUGGESTED READINGS:

1. Robins P.Stephen and Judge: Organizational Behavior, 12th Edition PHI, / Pearson New Delhi.
2. Fred Luthans: OrganisationalBehaviour.
3. Nelson: Organisational Behaviour – Thomson Learning.
4. Hellriegel : Organisational Behaviour Role -Thomson.
5. Piesce : Management & Organisational Behaviour -Thomson.
6. Rao. V.S.P & Narayana P.S: "Organisation Theory and Behaviour", Konark Publishers Pvt.Ltd. New
7. Delhi.
8. Shashi K. Gupta & Rosy Joshi: Organisation Theory and Behaviour, Kalyani Publishers, Luidhiana –2008.
9. Davis, Keith; Human Behaviour at work, Tata McGraw Hill Publishing Company Ltd, New Delhi.
10. Scott, Wiilam G: Organisation Theory; Homewood III Richard D.Irwin.
11. Schein, Edgar H; Organisational psychology; Prentice Hall of India,1979.

CO-PO Mapping

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	3	3	1	2	2	1	3	2
CO2	3	3	1	2	2	1	3	2
CO3	3	3	2	2	2	1	3	2
CO4	3	3	1	2	2	2	3	2

Note: *3 = High correlation, 2 = Medium correlation, 1 = Low correlation, and – = No correlation.*

M.Com. (E-Com) - SEMESTER-I
FINANCIAL MANAGEMENT

Paper Code: DSC102 **Exam Duration- 3Hours**
Credits: 4 **Maximum Marks: 100(40+60)**
PPW:5

OBJECTIVE: To impart an intensive knowledge about the technicalities of corporate finance and make the students viable with financial decision making and managerial practices.

Course Outcomes (COs)
On successful completion of this course, students will be able to:
CO1: Understand the objectives and scope of financial management and apply time value of money to financial decisions and evaluate investment proposals using capital budgeting techniques and assess risk in investment decisions.
CO2: Analyse capital structure, cost of capital and leverage decisions for optimal financing.
CO3: Apply dividend theories to formulate appropriate dividend policy decisions.
CO4: Determine and forecast working capital requirements for effective liquidity management.

UNIT I – INTRODUCTION AND INVESTMENT DECISION

INTRODUCTION: Concept - Objectives - Profit Maximization Vs Wealth Maximization. Scope and Functions of Financial Management – Role of Financial Managers — Financial Planning: Concept, types and estimation of financial requirements – Time value of money (Problems)

INVESTMENT DECISION – Nature of Capital Budgeting Decision – Investment evaluation criterion – Traditional Vs Discounted cash flows techniques (Problems) – Risk Analysis in Capital Budgeting: Concept of Risk and Uncertainty - Measurements of Risk and Return – Risk evaluation approaches – Probability distribution Approach – Sensitivity Approach and Decision Tree Approach (Problems)

UNIT II – **FINANCING DECISION** – Concept of Capital Structure: Constituents of Capital Structure - Capital Structure Determinants – Sources of Financing - Cost of Capital: Specific Cost of Capital for Various Sources and Weighted Average Cost of Capital (WACC) (Problems) – Capital Structure Theories – EBIT-EPS Analysis - Indifference Point - Leverages: Concept, Significance of Leverages, Types of Leverages: Impact of Operating and Financial Leverages (problems)

UNIT III– **DIVIDEND DECISION** – Concept of Dividend– Types of Dividend – Dividend Vs Profit Retention decision – Dividend policies – Factors influencing - Dividend Theories: Relevance and Irrelevance of dividends – Dividend Relevance: Walter‟s and Gordon‟s models – Dividend Irr Relevance: MM approach (Problems).

UNIT IV – **WORKING CAPITAL DECISION** – Concept, Components, Objectives and Types of Working Capital –Sources of Working Capital- Operating Cycle – Determinants of Working Capital – Liquidity Vs Profitability – Forecasting Working Capital Requirements (Problems) Management of Inventory, Receivables and cash (Theory Only).

SUGGESTED READINGS:

1. Prasanna Chandra: Financial Management, (TMH), 6/e,2004.
2. M.Y. Khan & P.K. Jain – Financial Management, (TMH), 4/e,2004.
3. I.M. Pandey – Financial Management (Vikas), 9/e,2005.
4. Brigham & Ehrhardt, Financial Management – Theory & Practice, Thomson Learning, 10/e –2004.
5. Ross, Wester field & Jaffe, Corporate Finance– TMH – 7/e,2005.
6. Advanced Financial Management – Sudhindra Bhat – ExcelBooks.
7. Vanhorne, Financial Management & Policy, Pearson /PHI.
8. Keown, Martin, Petty. Scott, Financial management: principles and applications—PHI.
9. Brearly and Myers, Principle of Corporate Finance– TMH–7/e,2004.
10. Ashwath Damodaran, Corporate Finance – Theory & Practice –John Wiley,2003.
11. Pandey & Bhatt, Cases in Financial Management - TMH, 2/e,2003.
12. Corporate Financial Strategy – Ruth Bendel – EL, Sevier India (P) Ltd.
13. Kothari & Dutta: Contemporary Financial Management–Macmillan.

CO-PO Mapping

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	3	2	3	2	1	1	1	3
CO2	3	2	3	2	1	1	1	3
CO3	3	2	3	2	1	1	2	3
CO4	3	2	3	2	1	1	1	3

Note: *3 = High correlation, 2 = Medium correlation, 1 = Low correlation, and – = No correlation.*

M.Com. (E-Com) - SEMESTER-I
FUNDAMENTALS OF MARKETING AND DIGITAL MARKETING

Paper Code: DSC103 **Exam Duration- 3Hours**
Credits: 4 **Maximum Marks: 100(40+20+40)**
PPW: 5 (3T+2P)

Objective: To provide an understanding of marketing management and digital marketing concepts, strategies and applications in modern business.

Course Outcomes (COs)

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

CO1: Understand core marketing concepts, the marketing environment and STP strategy.

CO2: Apply the elements of the marketing mix — product, price, place and promotion — to business situations.

CO3: Develop digital marketing strategies using content marketing, SEO, SEM, social media and e-mail marketing.

CO4: Analyse digital marketing metrics and campaigns using web and social media analytics tools.

UNIT – I: MARKETING MANAGEMENT

Marketing – Meaning, Nature, Scope and Functions – Marketing Concepts – Marketing Environment – Marketing Mix – Market Segmentation – Targeting – Positioning – Consumer Behaviour – Marketing Research.

UNIT – II: MARKETING MIX

Product – Product Life Cycle – Branding – Packaging – Pricing – Pricing Methods and Strategies – Marketing Channels – Distribution – Promotion Mix – Advertising – Sales Promotion – Personal Selling.

UNIT – III: DIGITAL MARKETING

Digital Marketing – Meaning, Scope and Importance –Digital Marketing Channels - Digital Marketing Strategy – Content Marketing – Search Engine Optimization (SEO) – Search Engine Marketing (SEM) – Social Media Marketing – E-Mail Marketing.

UNIT – IV: DIGITAL MARKETING ANALYTICS

Digital Customer Engagement – Digital Customer Relationship Management – Web Analytics – Social Media Analytics – Digital Marketing Metrics – Conversion Analysis – Campaign Analysis – Artificial Intelligence in Marketing – Emerging Trends in Digital Marketing.

PRACTICAL WORK

1. Preparation of a simple Marketing Plan.
2. Customer Segmentation and Targeting.
3. SEO Content Preparation.
4. Social Media Marketing Plan.
5. Analysis of Digital Marketing Metrics.
6. Digital Marketing Plan for an E-Commerce Business.

SUGGESTED READINGS:

1. Philip Kotler: Marketing Management Analysis, Planning & Control , 9thedn.
2. Philip Kotler : Principles of Marketing.
3. Joel R.Evans Barry Berman: Marketing.
4. E.Jerome McCarthy William D.P:arreault : Basic Marketing.
5. W.J.Stanton : Fundamentals of Marketing.
6. J.C.Gandhi : Marketing Management.
7. Lovdon& Della Bitta: Consumer Behaviour Concepts and Applications.
8. Schiff Man. Consumer Behavior, Prenticehall.
9. Lovelock: Managing Services, marketing Operations and Human Resources.
10. Electronic Commerce- Schneider -Thomson.
11. Electronic Commerce, Managerial perspective, Efraim Turban, Jae Lee, David King, Micheal chang, Addison wesley, NewDelhi.
12. Electronic Commerce, Greenstein and Feinman, Tata McGrawhill, New Delhi,2000.
13. Czinkota : Marketing Management 2/e -Thomson.
14. Lamb: Intro to Marketing -Thomson.

15. Jain : Marketing, Planning & Strategy -Thomson.
16. Assael : Consumer Behaviour -Thomson.
17. Dave Chaffey & Fiona Ellis-Chadwick – *Digital Marketing*
18. Seema Gupta – *Digital Marketing*
19. Puneet Singh Bhatia – *Fundamentals of Digital Marketing*

CO-PO Mapping

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	3	2	3	2	1	1	1	3
CO2	3	2	3	2	1	1	1	3
CO3	3	2	3	2	1	1	2	3
CO4	3	2	3	2	1	1	1	3

Note: *3 = High correlation, 2 = Medium correlation, 1 = Low correlation, and – = No correlation.*

M.Com. (E-Com) - SEMESTER-I
BUSINESS APPLICATIONS AND PROGRAMMING

Paper Code: DSC104 **Exam Duration: 3 Hours**
Credits: 4 **Maximum Marks:**
100(40+20+40)
PPW: 5 (3T+2P)

OBJECTIVE
To develop, practical proficiency in business applications, digital productivity tools, spreadsheet modeling data analysis and to develop computational thinking, programming and problem-solving skills are using C for business and commerce applications.

Course Outcomes (COs)

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

CO1: Use MS-Word and MS PowerPoint to prepare professional business documents and presentations.

CO2: Apply MS-Excel functions, data analysis tools and dashboards for business decision-making.

CO3: Design algorithms and flowcharts and develop C programs using decision-making and looping constructs.

CO4: Develop C programs using structures, pointers and file handling for business problem-solving.

UNIT–I: DIGITAL PRODUCTIVITY AND BUSINESS COMMUNICATION

Digital Business Applications: Role of digital applications in business operations, communication and decision-making – Business use of Internet, E-mail, Cloud Services and Online Collaboration Tools.

MS-Word: Introduction to Word Processing and its Applications in Business – Creating and Managing Professional Documents – Text and Paragraph Formatting – Page Layout and Document Design – Styles and Templates – Tables – Inserting and Formatting Images, Shapes and Other Objects – Headers and Footers – Page Breaks and Section Management – Find and Replace – Spelling and Grammar Tools – Mail Merge – Referencing and Citations – Document Review and Collaboration – Preparation of Business Reports, Letters and Academic Documents.

MS-PowerPoint: Introduction to Business Presentations – Creating and Managing Presentations – Slide Layouts and Views – Themes and Templates – Formatting Text and Objects – Inserting Tables, Images, Charts, Graphs and SmartArt – Slide Transitions and Animations – Presentation Design Principles – Data Storytelling and Visual Communication – Interactive Presentations – Preparing Effective Business and Academic Presentations.

UNIT–II: SPREADSHEETS AND BUSINESS DATA ANALYSIS

MS-Excel: Spreadsheet Concepts and Applications in Business – Creating and Managing Worksheets and Workbooks – Data Entry, Editing and Formatting – Cell References and Ranges – Relative, Absolute and Mixed References – Basic Formulas and Functions – Mathematical, Statistical, Logical, Text and Financial Functions – Conditional and Nested IF Functions – Data Sorting, Filtering and Validation – Lookup and Reference Functions: VLOOKUP, HLOOKUP, XLOOKUP, INDEX and MATCH – Conditional Formatting – Charts and Graphs – Pivot Tables and Pivot Charts – What-If Analysis: Goal Seek, Data Tables and Scenario Manager – Data Consolidation and Subtotals – Text to Columns – Named Ranges and Formula Auditing – Spreadsheet Modelling for Business Decision-Making – Business Data Analysis – Development and Interpretation of Simple Business Dashboards.

UNIT–III: PROGRAMMING LOGIC AND C PROGRAMMING

Problem-Solving and Programming: Computational Thinking – Problem-Solving Techniques – Algorithms and Flowcharts for Business Problems – Program Design and Development using C – Data Types, Variables and Expressions – Operators – Input and Output Operations – Decision-Making Statements: if, if-else, Nested if, else-if Ladder and switch – Iterative Statements: while, do-while and for – Nested Loops – One-Dimensional and Two-Dimensional Arrays – Strings and String Processing.

Functions: Predefined Functions – User-Defined Functions – Function Declaration, Definition and Calling – Function Parameters and Return Values – Recursive Functions

UNIT–IV: ADVANCED C PROGRAMMING AND PROBLEM SOLVING

Structures and Pointers: Structures – Declaration and Initialization of Structures – Accessing Structure Members – Array of Structures – Enumerated Data Types – Introduction to Pointers – Pointers and Functions – Passing Parameters to Functions.

File Management: Concept and Types of Files – Opening and Closing Files – Reading and Writing Data – Character and String Input/Output Operations – Processing Data through Files.

SUGGESTED READINGS

1. Balagurusamy, E. – *Programming in ANSI C*, McGraw Hill.
2. Kanetkar, Y. – *Let Us C*, BPB Publications.
3. Venugopal, K. R. & Prasad, S. R. – *Mastering C*, McGraw Hill.
4. Rajaraman, V. – *Introduction to Information Technology*, PHI Learning.
5. Saxena, Sanjay – *MS Office*, Vikas Publishing House.
6. Walkenbach, J. – *Microsoft Excel Bible*, Wiley.
7. Frye, Curtis – *Microsoft Excel Step by Step*, Microsoft Press.
8. BPB Publications – *MS Office*.

CO-PO Mapping

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	2	3	1	1	2	1	3
CO2	2	2	3	1	1	2	1	3
CO3	2	2	3	1	1	2	2	3
CO4	2	2	3	1	1	2	2	3

Note: *3 = High correlation, 2 = Medium correlation, 1 = Low correlation, and – = No correlation.*

M.Com. (E-Com) - SEMESTER-I
SUSTAINABLE DEVELOPMENT

Paper Code:VAC-1 **Exam Duration: 2 Hours**
Credits: 2 **Max. Marks: 50**
PPW: 2

Objective

To understandingthe concept of sustainable development and its application to business, with emphasis on SDGs, ESG, climate action, circular economy, sustainable finance, responsible business practices and emerging technologies for sustainability.

Course Outcomes (COs)

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

CO1: Understand the meaning, dimensions and principles of sustainable development and the SDGs.

CO2: Analyse the role of business in addressing global sustainability challenges such as climate change.

CO3: Evaluate ESG practices, sustainability reporting frameworks and green finance instruments.

CO4: Assess emerging practices such as circular economy, sustainable supply chains and AI for sustainability.

UNIT I: SUSTAINABLE DEVELOPMENT AND BUSINESS

Sustainable Development – Meaning, Dimensions and Principles – Sustainable Development Goals (SDGs) – Triple Bottom Line – Stakeholder Approach – Systems Thinking for Sustainability – Global Sustainability Challenges – Climate Change – Net-Zero and Climate Transition – Sustainable Consumption and Production – Green Economy – Just Transition and Social Inclusion – Role of Business in Sustainable Development.

UNIT II: SUSTAINABLE BUSINESS AND EMERGING PRACTICES

Environmental, Social and Governance (ESG) – Corporate Sustainability – ESG Metrics, Double Materiality and Sustainability Reporting – BRSR, ISSB and Integrated Reporting: Overview – Sustainable Finance – Green Finance – Green Bonds, Sustainability-Linked Finance and Carbon Markets – Circular Economy – Regenerative Business Models – Sustainable and Resilient Supply Chains – Green Procurement – Sustainable Entrepreneurship and Innovation – Social Innovation and Inclusive Business – AI and Digital Technologies for Sustainability – Sustainability Analytics and Impact Measurement – Greenwashing and Responsible Sustainability Communication – Emerging Trends in Sustainable Business.

SUGGESTED READINGS:

1. Sachs, J. D. – The Age of Sustainable Development, Columbia University Press.
2. Elkington, J. – Cannibals with Forks: The Triple Bottom Line of 21st Century Business, Capstone Publishing.
3. Rogers, P. P., Jalal, K. F. & Boyd, J. A. – An Introduction to Sustainable Development, Earthscan.
4. Adams, C. A. – Sustainability and Corporate Reporting, Routledge.
5. Hopwood, A. G., Unerman, J. & Fries, J. – Accounting for Sustainability: Practical Insights, Earthscan.
6. World Commission on Environment and Development – Our Common Future, Oxford University Press.

ADDITIONAL REFERENCE SOURCES

1. SEBI – Business Responsibility and Sustainability Reporting (BRSR) Framework.
2. International Sustainability Standards Board (ISSB) – IFRS Sustainability Disclosure Standards.
3. International Financial Reporting Standards (IFRS) Foundation – Sustainability Disclosure Standards.
4. World Bank – Sustainable Development and Climate Finance Resources.
5. UNEP – Sustainable Consumption, Production and Circular Economy Resources.

CO-PO Mapping

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	2	2	1	3	1	1	3
CO2	1	2	2	1	3	1	1	3
CO3	1	2	2	1	3	2	1	3
CO4	1	2	2	1	3	2	1	3

Note: *3 = High correlation, 2 = Medium correlation, 1 = Low correlation, and – = No correlation.*

M.Com.(GENERAL) SEMESTER-I
ARTIFICIAL INTELLIGENCE

Paper Code: IDC-1 **Exam Duration: 2Hours**
Credits: 2 **Max. Marks:50**
PPW:2

OBJECTIVE
To introduce students to the fundamental concepts of Artificial Intelligence and its growing role in business, commerce and society, and to create awareness of basic AI applications, opportunities, limitations and ethical considerations.

Course Outcomes (COs)

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

CO1: Understand the fundamental concepts, evolution and types of Artificial Intelligence.

CO2: Distinguish between AI, Machine Learning, Deep Learning and Generative AI.

CO3: Identify applications of AI across business functions such as marketing, finance, HR and e-commerce.

CO4: Evaluate ethical issues, bias, privacy concerns and the impact of AI on employment.

UNIT-I: FUNDAMENTALS OF ARTIFICIAL INTELLIGENCE
Artificial Intelligence – Meaning, Evolution and Scope – Objectives and Characteristics of AI – Types of AI – AI, Machine Learning and Deep Learning: Basic Concepts – Data and AI – Introduction to Generative AI – Overview of Natural Language Processing and Computer Vision – Common AI Tools and Applications – Benefits and Limitations of Artificial Intelligence.

UNIT-II: ARTIFICIAL INTELLIGENCE IN BUSINESS AND COMMERCE
Applications of AI in Business and Commerce – AI in Marketing – Finance and Accounting – Banking – Human Resource Management – Operations – Customer Service – E-Commerce and Digital Business – AI-Assisted Business Communication and Productivity – Introduction to AI-Based Decision-Making – Ethical Issues in AI – Bias and Fairness – Privacy and Data Security – Transparency and Accountability – Human Oversight – Impact of AI on Employment and Skills – Emerging Trends in Artificial Intelligence.

SUGGESTED READINGS

1. Russell, S. & Norvig, P. – *Artificial Intelligence: A Modern Approach*, Pearson.
2. Alpaydin, E. – *Introduction to Machine Learning*, MIT Press.
3. Mollick, E. – *Co-Intelligence: Living and Working with AI*, Portfolio.
4. UNESCO – *Recommendation on the Ethics of Artificial Intelligence*.
5. OECD – *OECD AI Principles and Artificial Intelligence Resources*.
6. NITI Aayog – *National Strategy for Artificial Intelligence*.

CO-PO Mapping

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	2	2	1	3	1	1	3
CO2	1	2	2	1	3	1	1	3
CO3	1	2	2	1	3	1	1	3
CO4	1	2	2	1	3	2	1	3

Note: *3 = High correlation, 2 = Medium correlation, 1 = Low correlation, and – = No correlation.*

SEMESTER-II

M.Com. (E-Com) - SEMESTER-II
MANAGERIAL ECONOMICS

Paper Code:DSC201 **Exam Duration- 3Hours**
Credits: 4 **Maximum Marks: 100(40+60)**
PPW: 5

OBJECTIVE: To understand the role of economic analysis in formulating policies at the firm level and apply basic economic theories to managerial decision making.

Course Outcomes (COs)

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

CO1: Understand the scope of managerial economics and the concepts of demand and its elasticity.

CO2: Analyse production functions and determine optimal combinations of inputs.

CO3: Evaluate short-run and long-run cost functions and perform break-even analysis.

CO4: Analyse price and output decisions under different market structures.

UNIT-I: INTRODUCTION TO MANAGERIAL ECONOMICS

Meaning and Nature of Managerial Economics – Characteristics, Significance and Scope of Managerial Economics – Role and Responsibility of Managerial Economist - Objectives and Constraints of Firm – Concepts of Economic Profit and Accounting Profit (including problems) – Functional Relationship between Total, Average and Marginal Revenue – Total, Average and Marginal Cost – Total Cost Function (Simple problems requiring application of First and Second order derivatives).

Meaning of Demand – Determinants of Demand – Demand Function – Individual Demand Function – Market Demand Function - Demand Estimation — Elasticity of Demand — Price Elasticity of Demand: Point and Arc Elasticity Measurements – Income Elasticity of Demand – Cross Elasticity of Demand (Including simple problems)

UNIT-II: PRODUCTION FUNCTION

Meaning of Production and Production Function – Cobb Douglas Production Function – Production with One Variable Input – Diminishing Marginal Returns – Optimal Employment of a Factor of Production – Production with Two Variable Inputs – The Production iso-quant – The production iso-costs Optimal Employment of Two Inputs – Expansion Paths – Economies of Scale and Scope (including problems)

UNIT-III: COST FUNCTION

Economic Concept of Cost – Short Run Cost Functions Finding Minimum Average Variable Cost through Equations – Long Run Cost Function – Linear and Non-linear Break-even Analysis – Profit Contribution Analysis (including simple problems)

UNIT-IV: MARKET STRUCTURE

Perfect and Imperfect Market Condition – Perfect Competition – Characteristics - Equilibrium Price – Profit Maximization, in Short run and Long run – Shut down Decision - Monopoly – Characteristics – Profit Maximization in Short run and Long run – Allocative Inefficiency, Income Transfer and Rent Seeking. Monopolistic Competition – Characteristics - Profit Maximization – Price and Output Determination in Short run and Long run - Oligopoly - Characteristics – Price Rigidity - Kinked Demand Model (Theory Only).

SUGGESTED READINGS:

1. H.Carig Petersen and W.Criss Lewis – Managerial Economics, Prentice Hall India, New Delhi,2000.
2. Maurice – Managerial Economics, Prentice Hall India, New Delhi,2000.
3. Joel Dean – Managerial Economics, Prentice Hall India, New Delhi,2000.
4. Baumol W. J – Economics Theory and OperationAnalysis.
5. J.L Pappers, E.F.Bighan, M.Hirsch – Managerial Economics, Prentice India, New Delhi, 2000.

CO-PO Mapping

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	3	1	1	1	2	1	1
CO2	2	3	1	1	1	2	1	1
CO3	2	3	1	1	1	2	1	1
CO4	2	3	1	1	1	2	1	1

Note: *3 = High correlation, 2 = Medium correlation, 1 = Low correlation, and – = No correlation.*

M.Com. (E-Com) SEMESTER-II
HUMAN RESOURCE MANAGEMENT

Paper Code: DSC202 **Exam Duration- 3Hours**
Credits: 4 **Maximum Marks: 100(40+60)**
PPW:5

OBJECTIVE: To understand various facets of Human Resource Management and comprehend emerging developments in HRM.

Course Outcomes (COs)

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

CO1: Understand the concepts, scope and functions of human resource management and HRD.

CO2: Apply job analysis, human resource planning, recruitment and selection processes.

CO3: Evaluate performance appraisal, training and employee empowerment practices.

CO4: Analyse compensation management, employee relations and collective bargaining practices.

UNIT I: INTRODUCTION

Concepts, Significance, Objectives, Scope and Functions of Human Resource Management - Changing role of Human Resource Manager – HRM Policies - Impact of Environment on Human Resource Management- Human Resource Development: Concept, Objectives, Scope and Techniques of HRD.

UNIT II: ACQUISITION OF HUMAN RESOURCE

Job Design: Concept Approaches - Job Rotation - Job Enlargement - Job Enrichment- Job Bandwidth. Job Analysis: Concept - Objectives -Job Description and Job Specification- Methods of Job Analysis. Human Resource Planning: Concept - Objectives - Benefits - Factors affecting HR planning - Process of HR Planning - Problems in HR Planning. Recruitment: Objectives - Sources of Recruitment. Selection: Concept –Selection Procedure – Tests and Interview - Placement - Induction - Promotion -Transfer.

UNIT III: DEVELOPING AND MOTIVATING HUMAN RESOURCES

Performance Appraisal: Concept, Objectives, Traditional and Modern Methods of Appraisal – Problems in Performance Appraisal - Concepts of Potential Appraisal, Assessment Centers and Career Planning andDevelopment. Training: Assessing training needs Methods and Evaluation of Training – Development – Techniques of Management Development – Evaluating Effectiveness.

Empowerment: Concept of Empowerment and Participative Management: Objectives and Types of Participative Management – Quality Circles- Forms of Workers Participation in Management.

UNIT IV: MAINTENANCE OF HUMAN RESOURCE

Compensation Management: Concept – Objectives. Job Evaluation: Concept Methods. Concept of Minimum Wage, Living Wage and Fair Wage – Wage Differentials- Essentials of Sound Wage Structure. Employee Relations: Concept – Objectives. – Discipline: Concept – Objectives. – Grievance: Concept, Causes and Procedure of Grievance. Trade Unions: Objectives - Role of Trade Union in the economy - Collective Bargaining – Types – Essential conditions for the success of Collective Bargaining.

SUGGESTED READINGS:

1. Bohlander: Human Resource Management, Thomson.
2. David A.DeCenzo and Stephen P.Robins: Personnel/ Human Resource Management, PHI.
3. Biswajeet Pattanayak : Human Resource Management,PHI.
4. Srinivas K. R: Human Resource Management in Practice, PHI.
5. Mathis: Human Resource Management, 10e Thomson.
6. Sadri, Jayasree, Ajgaonkar, Geometry of HR, Himalaya.
7. Subba Rao P. Personnel and Human Resource Management, Himalaya.
8. VSP Rao, Human Resource Management,Vikas.
9. Mello: Strategic Human Resource Management, 2eThomson.
10. Gupta CB, Human Resource Management, Sultan Chand &Sons.

CO-PO Mapping

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	3	3	1	2	2	1	3	2
CO2	3	3	2	2	2	1	3	2
CO3	3	3	1	2	2	2	3	2
CO4	3	3	1	2	2	1	3	2

Note: *3 = High correlation, 2 = Medium correlation, 1 = Low correlation, and – = No correlation.*

M.Com. (E-Com) - SEMESTER-II
BUSINESS ENVIRONMENT AND INTERNATIONAL BUSINESS

Paper Code: DSC203 **Exam Duration- 3Hours**
Credits: 4 **Maximum Marks: 100(40+60)**
PPW:5

OBJECTIVE: To know the basic concepts of Business Environment and Global Business and its impact on Business Environment.

Course Outcomes (COs)

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

CO1: Understand the concept and components of the business environment.

CO2: Analyse industrial policies, regulations and their impact on business growth.

CO3: Evaluate theories of international trade, FDI/FPI and India's foreign trade policy.

CO4: Analyse regional economic integration and the role of international economic institutions such as the IMF, WTO and World Bank.

UNIT-I CONCEPTS AND ELEMENTS OF BUSINESS ENVIRONMENT:

Business Environment: Concept and types of Business Environment –Internal Environment – External Environment - Economic Environment- Economic Systems - Economic policies - (Monetary and Fiscal policies) - Political Environment - Role of Government in Business - Legal Environment - Social Responsibility of Business - Corporate Governance - Corporate Social Responsibility –Technological, Social and cultural factors and their influence on business.

UNIT- II INDUSTRIAL POLICIES AND REGULATIONS

Rational for Industrial Policy - Industrial Policies up to 1991 - Evaluation of New Industrial Policy – Liberalization, Privatization and Globalization – Public and Private Participation (PPP) – Disinvestment - Industrial Growth and Structural changes – Economic Planning – NITI Aayog.

UNIT-III THEORIES OF INTERNATIONAL TRADE, FOREIGN CAPITAL.

Types of International Trade Theories - Globalization and its drivers - Modes of entry into International Business - Government intervention in International Trade - Tariff and Non-Tariff barriers - India’s Foreign Trade Policy – FEMA – FERA. Balance of Payment - Importance and components. Foreign Direct Investment (FDI) and Foreign Portfolio Investment (FPI) - Types of FDI, Costs and benefits of FDI to home and host countries - Trends in FDI - India’s FDI policy-

UNIT-IV REGIONAL ECONOMIC INTEGRATION AND INTERNATIONAL ECONOMIC INSTITUTIONS:

Regional Economic Integration: Levels of Regional Economic Integration - Trade creation and diversion affect - Regional Trade Agreements: European Union (EU), ASEAN, SAARC, NAFTA and BRICS.

International Economic Institutions IMF: Structure, Functions and objectives- World Bank: Structure, Functions and objectives - UNCTAD: Structure, Functions and objectives - WTO: Structure, Functions and objectives – AOA - GATS – TRIPS – TRIMS.

SUGGESTED READINGS:

1. Justin Paul, International Business, PHI, Eastern Economy Edition.
2. Francis Cehrunilam , International Business ,PHI, Eastern Economy Edition.
3. Subba Rao, International Business, Himalaya Publishing House.
4. Ashwathappa: International Business, Tata Mc.Graw.Hill.
5. Verma M.L., International Trade, Vikas Publishing House Pvt. Ltd.

CO-PO Mapping

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	3	3	1	2	2	1	3	2
CO2	3	3	1	2	2	1	3	2
CO3	3	3	1	2	2	2	3	2
CO4	3	3	1	2	2	1	3	2

Note: *3 = High correlation, 2 = Medium correlation, 1 = Low correlation, and – = No correlation.*

M.Com. (E-Commerce) SEMESTER-II
E-COMMERCE AND E-BANKING

Paper Code: DSC 204 **Exam. Duration: 3 Hours**
Credits: 4
PPW 5 (3T+2P) **Max. Marks: 100 (40+20+40)**

OBJECTIVE
To develop comprehensive knowledge and practical understanding of E-Commerce and E-Banking, with emphasis on digital business models, electronic transactions, digital payment systems, cybersecurity, consumer protection, fintech innovations and emerging trends in the Indian and global digital economy.

Course Outcomes (COs)

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

CO1: Understand e-commerce business models and the digital business ecosystem.

CO2: Analyse digital banking channels and electronic payment systems such as UPI, CBDC, IMPS, NEFT and RTGS.

CO3: Apply cybersecurity principles, encryption and authentication techniques to secure digital transactions.

CO4: Evaluate e-commerce operations, consumer protection provisions and emerging technologies such as blockchain and IoT.

UNIT-I: E-COMMERCE AND DIGITAL BUSINESS MODELS
E-Commerce – Meaning, Nature, Scope and Evolution – E-Commerce and E-Business – E-Commerce Ecosystem – Internet, Intranet and Extranet – E-Commerce Business Models: B2B, B2C, C2C, C2B, B2G and G2C – Marketplace and Platform-Based Business Models – Direct-to-Consumer (D2C) Model – E-Commerce Value Chain – Benefits, Limitations and Challenges of E-Commerce – E-Commerce Applications in Retail, Education, Healthcare, Travel and Government Services – E-Commerce Opportunities in India – Mobile Commerce – Social Commerce – Omnichannel Commerce – Quick Commerce – Digital Platforms and Platform Economy.

UNIT-II: E-BANKING AND DIGITAL PAYMENT SYSTEMS
E-Banking – Meaning, Scope and Evolution – Digital Banking Channels: Internet Banking, Mobile Banking and ATM Services – Electronic Payment Systems – UPI and UPI-Based Payment Services – Digital Wallets and Prepaid Payment Instruments – Debit and Credit Cards – Payment Gateways and Payment Aggregators – IMPS, NEFT and RTGS – Bharat Bill Payment System (BBPS) – National Electronic Toll Collection (NETC) – Aadhaar Enabled Payment System (AePS) – Electronic Clearing and Settlement Systems – Digital Rupee (e₹) and Central Bank Digital Currency (CBDC) – FinTech in Digital Banking and Payments – Embedded Finance and Digital Lending.

UNIT-III: CYBER SECURITY, DIGITAL TRUST AND LEGAL FRAMEWORK
Cybersecurity in E-Commerce and E-Banking – Security Threats and Vulnerabilities – Phishing, Spoofing, Malware, Ransomware and Social Engineering – Confidentiality, Integrity and Availability – Authentication and Authorization – Multi-Factor Authentication – Encryption and Decryption – Symmetric and Asymmetric Cryptography – Digital Signatures and Digital Certificates – Public Key Infrastructure (PKI) – Secure Communication and SSL/TLS – Firewalls and Intrusion Detection – Secure Payment Transactions – Cyber Fraud and Risk Management – Data Privacy and Protection – Information Technology Act, 2000 – Digital Personal Data Protection Framework – Digital Identity and Trust – Legal and Ethical Issues in Digital Commerce.

UNIT-IV: E-COMMERCE OPERATIONS, CONSUMER PROTECTION AND EMERGING TECHNOLOGIES

Electronic Data Interchange (EDI) – Digital Contracts and Electronic Transactions – E-Commerce Transaction Process – Online Ordering, Payment, Fulfilment, Delivery, Returns and Refunds – E-Commerce Logistics and Last-Mile Delivery – Inventory and Order Management – Customer Relationship Management in E-Commerce – Consumer Rights in E-Commerce – Consumer Protection Act, 2019 – Consumer Protection (E-Commerce) Rules – Grievance Redressal and Consumer Dispute Resolution – Unfair Trade Practices and Misleading Digital Advertising – Dark Patterns – Blockchain Applications in E-Commerce and Banking – Cryptocurrency and Virtual Digital Assets: Overview – Open Banking – AI Applications in E-Commerce and E-Banking: Overview – Internet of Things (IoT) and Smart Commerce – Future Trends in Digital Commerce and Banking.

LABORATORY / PRACTICAL SESSIONS IN E-COMMERCE AND E-BANKING

1. E-Commerce Website Analysis
   Study an e-commerce platform and analyze its product catalogue, search, shopping cart, checkout, payment options, customer reviews and return/refund mechanisms.
2. E-Commerce Business Model Identification
   Analyze selected digital businesses and identify their business models such as B2B, B2C, C2C, D2C, marketplace and platform models.
3. Digital Payment Demonstration
   Study and demonstrate the workflow of digital payments using UPI, QR-based payments, mobile banking or other permitted digital-payment interfaces in a controlled/educational environment.
4. E-Banking Services Analysis
   Examine internet/mobile banking services and compare fund transfer, bill payment, account services, card services and other digital banking facilities.
5. Payment Gateway and Checkout Analysis
   Study the role of payment gateways/payment aggregators in an online transaction and prepare a transaction-flow diagram.
6. E-Commerce Website Development
   Create a simple static e-commerce webpage using HTML and basic CSS, containing product information, navigation, contact details and a simple enquiry/order form.
7. Digital Consumer Protection Case Study
   Examine an e-commerce transaction involving cancellation, refund, misleading information, unfair practice or grievance redressal and prepare a case analysis.
8. Cybersecurity and Digital Fraud Awareness
   Identify common phishing, social-engineering and online-payment fraud scenarios and prepare preventive measures.
9. E-Commerce Comparative Study
   Compare two e-commerce platforms based on business model, customer experience, payment options, delivery, returns, personalization and consumer protection.
10. Emerging Technology Case Study
    Prepare a case study on one of the following: AI in e-commerce, quick commerce, social commerce, blockchain, CBDC, embedded finance, digital lending or open banking.

SUGGESTED READINGS

1. Laudon, K. C. & Traver, C. G. – *E-Commerce: Business, Technology, Society*, Pearson.
2. Turban, E., Outland, J., King, D., Lee, J. K., Liang, T. P. & Turban, D. C. – *Electronic Commerce: A Managerial and Social Networks Perspective*, Springer.
3. Chaffey, D. – *Digital Business and E-Commerce Management*, Pearson.
4. Schneider, G. – *Electronic Commerce*, Cengage Learning.
5. Whiteley, D. – *E-Commerce: Strategy, Technologies and Applications*, McGraw Hill.
6. Murthy, C. S. V. – *E-Commerce: Concepts, Models and Strategies*, Himalaya Publishing House.
7. Krishnamurthy – *E-Commerce Management*, Vikas Publishing House.
8. Daniel Amor – *The E-Business (R)Evolution*, Pearson.

Important Current Reference Sources

- Reserve Bank of India (RBI) – digital payments, banking and payment systems. RBI's payment-system materials cover UPI, IMPS, NEFT, RTGS and other payment infrastructure.
- National Payments Corporation of India (NPCI) – UPI and retail payment products.
- Ministry of Electronics and Information Technology (MeitY) – IT and data-protection legislation and rules.
- Department of Consumer Affairs – Consumer Protection Act, E-Commerce Rules and related consumer-protection developments.

CO-PO Mapping

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	3	2	3	2	1	1	1	3
CO2	3	2	3	2	1	1	1	3
CO3	3	2	3	2	1	1	1	3
CO4	3	2	3	2	1	2	1	3

Note: *3 = High correlation, 2 = Medium correlation, 1 = Low correlation, and – = No correlation.*

M.Com. (E-Com) - SEMESTER-II
DATABASE MANAGEMENT SYSTEM

Paper Code:SEC **Exam Duration: 3Hours**
Credits: 4 **Max. Marks:100(40+20+40)**
PPW: 5(3T+2P)

OBJECTIVE
To understand database concepts, design and management techniques, and develop database applications using SQL and PL/SQL for business and E-Commerce applications.

Course Outcomes (COs)

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

CO1: Understand database concepts and design ER models for business applications.

CO2: Write SQL queries to create, manipulate and retrieve data from relational databases.

CO3: Apply indexing, transaction management and concurrency control techniques for database administration.

CO4: Develop PL/SQL programs and database applications for business reporting.

UNIT–I: DATABASE CONCEPTS AND DESIGN
Introduction to DBMS – Advantages of DBMS – Data Abstraction – Data Models – Database Users – Database Administrator – Entity Relationship Model – ER Diagrams – Converting ER Models to Relations – Relational Model – Keys and Integrity Constraints – Normalization and Denormalization.

UNIT–II: RELATIONAL DATABASE AND SQL
Introduction to Relational Databases – SQL – Data Types – DDL, DML, DCL and TCL Commands – Creating and Managing Tables – Inserting, Updating and Deleting Data – Constraints and Defaults – SQL Clauses – Single-Row Functions: Character, Number and Date Functions – Aggregate Functions – Sorting and Grouping – Joins – Subqueries – Views.

UNIT–III: DATABASE ADMINISTRATION AND TRANSACTION MANAGEMENT
Indexes – Types of Indexes – Creating and Managing Indexes – Transactions – Properties of Transactions – Concurrency Control – Locks – Two-Phase Locking – Deadlock – Database Backup and Recovery – Database Security and User Access Control.

UNIT–IV: PL/SQL AND DATABASE APPLICATIONS
PL/SQL – Variables – Operators and Expressions – Control Structures – Cursors – Functions – Stored Procedures – Triggers – Exception Handling – Database Connectivity – Data Retrieval and Analysis using SQL – Generation of Business Reports – Applications of Databases in E-Commerce, Banking, Accounting and Business.

LAB WORK
SQL, Oracle and MS-Access.

SUGGESTED READINGS

1. Korth, H. F., Silberschatz, A. and Sudarshan, S. – *Database System Concepts*, McGraw Hill.
2. Elmasri, R. and Navathe, S. B. – *Fundamentals of Database Systems*, Pearson.
3. Oracle – *SQL and PL/SQL Documentation*.
4. Ben Forta – *SQL in 10 Minutes*, Sams Publishing.
5. Ramakrishnan, R. and Gehrke, J. – *Database Management Systems*, McGraw Hill.

CO-PO Mapping

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	2	3	1	1	2	1	3
CO2	2	2	3	1	1	2	1	3
CO3	2	2	3	1	1	2	1	3
CO4	2	2	3	1	1	2	2	3

Note: *3 = High correlation, 2 = Medium correlation, 1 = Low correlation, and – = No correlation.*

M.Com. (E-Commerce) SEMESTER-II

Quantam Techniques

Paper Code:VAC-2 **Exam Duration- 2Hours**
Credits: 2 **Maximum Marks: 50**
PPW:2

OBJECTIVE
To introduce students to the fundamentals of quantum technology and quantum computing and create awareness of their potential applications in business, finance, commerce, cybersecurity and digital transformation.

Course Outcomes (COs)

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

CO1: Understand the fundamentals of quantum technology, qubits, super position and entanglement.

CO2: Distinguish between classical and quantum computing models and algorithms.

CO3: Identify applications of quantum computing in finance, banking and supply chain optimisation.

CO4: Evaluate the opportunities and challenges of quantum cryptography and post-quantum cyber security for business.

UNIT-I: FUNDAMENTALS OF QUANTUM TECHNOLOGY
Quantum Technology – Meaning, Evolution and Scope – Classical Computing and Quantum Computing – **Qubits and Quantum States** – Superposition – Entanglement – Quantum Measurement – Quantum Gates and Quantum Circuits: Basic Concepts – Quantum Algorithms: Overview – Quantum Computing Models – Quantum Hardware and Quantum Processors – **Quantum Computing, Quantum Communication and Quantum Sensing: An Overview** – Opportunities and Limitations of Quantum Technology.

UNIT-II: QUANTUM APPLICATIONS IN BUSINESS AND COMMERCE
Quantum Computing in **Finance and Banking** – Portfolio Optimization – Risk Analysis – Fraud Detection – Financial Modelling and Forecasting – Quantum Applications in **Supply Chain and Logistics Optimization** – Business Analytics and Decision-Making – Quantum Machine Learning: Overview – **Quantum Cryptography and Post-Quantum Cybersecurity** – Quantum Communication and Secure Transactions – Applications in E-Commerce and Digital Business – Quantum Technology and Artificial Intelligence – Business Opportunities and Challenges – **Future of Quantum Technology and Industry Readiness**.

Suggested Readings

1. Nielsen, M. A. & Chuang, I. L. – *Quantum Computation and Quantum Information*, Cambridge University Press.
2. McKinsey & Company – *Quantum Technology Monitor* and Quantum Technology business resources.
3. Deloitte – *A Business Leader's Guide to Quantum Technology*.
4. Preskill, J. – *Quantum Computing in the NISQ Era and Beyond*, Quantum.
5. National Quantum Mission, Government of India – Official resources on Quantum Technologies.
6. World Economic Forum – Resources on Quantum Computing and Emerging Technologies.

CO-PO Mapping

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	2	2	1	3	1	1	3
CO2	1	2	2	1	3	1	1	3
CO3	1	2	2	1	3	1	1	3
CO4	1	2	2	1	3	2	1	3

Note: *3 = High correlation, 2 = Medium correlation, 1 = Low correlation, and – = No correlation.*