

(Applicable to the batch of students admitted in the academic year 2026-2027 onwards)

B.Com.(Business Analytics) (CBCS)

FACULTY OF COMMERCE,TU

B.Com (Business Analytics)

I,II, III & IV Semester Syllabus

(CBCS)

(w.e.f. 2026–2027)



FACULTY OF COMMERCE
TELANGANA UNIVERSITY
NIZAMABAD – 503 322 TELANGANA

2026

(Applicable to the batch of students admitted in the academic year 2026-2027 onwards)

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**B.COM (Business Analytics)
CBCS COURSE STRUCTURE
w.e.f. 2026-2027**

Sl.No.	Code	Course Title	HPW	Credits	Exam Hrs	Marks
(1)	(2)	(3)	(5)	(6)	(7)	(8)
		SEMESTER – I				
1.	AEC1	English (First Language)	4	4	3 hrs	80U+20I
2.	SLS1	Second Language	4	4	3 hrs	80U+20I
3.	MJR101	Financial Accounting-I	5	5	3 hrs	80U+20I
4.	MJR102	Business Organization and Management	5	5	3 hrs	80U+20I
5.	MJR103	Data-driven Decision Making	3T+4P 5	5	3 hrs	50T+35P+15I
		Total	23	23		
		SEMESTER – II				
6.	AEC2	English (First Language)	4	4	3 hrs	80U+20I
7.	SLS2	Second Language	4	4	3 hrs	80U+20I
8.	MJR201	Financial Accounting-II	5	5	3 hrs	80U+20I
9.	MJR202	Business Laws	5	5	3 hrs	80U+20I
10.	MJR203	Data Analytics Essentials	3T+4P 5	5	3 hrs	50T+35P+15I
		Total	23	23		
		SEMESTER – III				
11.	AEC3	English (First Language)	4	4	3 hrs	80U+20I
12.	SLS3	Second Language	4	4	3 hrs	80U+20I
13.	MJR301	Advanced Accounting	5	5	3 hrs	80U+20I
14.	MJR302	Business Statistics-I	5	5	3 hrs	80U+20I
15.	MJR303	Data Analytics Modeling	3T+4P 5	5	3 hrs	50T+35P+15I
		Total	23	23		
		SEMESTER – IV				
16.	AEC4	English (First Language)	4	4	3 hrs	80U+20I
17.	SLS4	Second Language	4	4	3 hrs	80U+20I
18.	MJR401	Corporate Accounting	5	5	3 hrs	80U+20I
19.	MJR402	Business Statistics-II	5	5	3 hrs	80U+20I
20.	MJR403	Forecasting & Predictive Analytics	3T+4P 5	5	3 hrs	50T+35P+15I
		Total	23	23		
		SEMESTER – V				
21.	MJR501	a) Cost Accounting/ b) Business Economics/ c) International Financial Reporting-I	5	5	3 hrs	80U+20I
22.	MJR502	a) Business Ethics & Corporate Governance / b) Advanced Data Visualization/ c) Financial Management	3T+4P 5	5	3 hrs	80U+20I 50T+35P+15I/ 80U+20I
23.	MDC503	a) Introduction Accounting b) Principles of Management	4	4	3 hrs	80U+20I
24.	SEC1	a) Entrepreneurship & Startups b) Communication Skills/ c) Professional Development Skills	2	2	2 hrs	40U+10I

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26	SEC2	a) Professional Development Skills b) Entrepreneurship & Startups c) Communication Skills/	2	2	2 hrs	40U+10I
27	VAC1	a) Environmental Science/ b) Cyber Security & Laws	2	2	2 hrs	40U+10I
		Total	20	20		
		SEMESTER – VI				
31	MJR601	a) Management Accounting/ b) Auditing/ c) International Financial Reporting-II	5	5	3 hrs	80U+20I
32	MJR602	a) Advanced Corporate Accounting / b) Business Applications of Emerging Technologies/ c) Investment management	3T+4P 5	5	3 hrs	80U+20I 50T+35P+ 15I/ 80U+20I
33	RMP603	Research Methodology/ Internship/Project Report	2T+4PR 4	4	2 hrs	40U+10I 25PR+15IS +10VV
34	SEC3	a) Fundamentals of AI Tools/ b) Ability Skills (Competitive Mathematics)	2	2	2 hrs	40U+10I
35	SEC4 (Dept. Specified)	a) Computerized Accounting b) E-filing of Tax Returns	2	2	2 hrs	40U+10I
36	VAC2	a) Cyber Security & Laws/ b) Environmental Science	2	2	2 hrs	40U+10I
		Total	20	20		
		GRAND TOTAL	132	132		

THPW: Teaching Hour Per Week; ESED: End Semester Exam Duration AEC: Ability Enhancement Course; SLS: Second Language Skill; SEC: Skill Enhancement Course; MJR: Major Course ; VAC: Value Added Course; MDC: Multi-disciplinary Course; T: Theory; P: Practical; I: Internal Exam U: University Exam: RMP: Research Methodology & Project Report; PR: Project Report; IS: Internship; VV: Viva-Voce Examination.

Note: If a student opts for “a” in SEC in V Semester, the student has to opt for “a’ only in VI Semester and so is the case with “b” and “c” in the case of Major/MDC papers also the rule applies.

SUMMARY OF CREDITS

Sl. No.	Course Category	No. of Courses	Credits Per Course	Credits
1	AEC (English Language)	4	4	16
2	Modern Language	4	4	16
3	SEC	4	2	8
5	VAC	2	2	4
6	MDC	1	4	4
7	RMP	1	4	4
8	MJR	16	5	80
	TOTAL	32		132
	Commerce	18		86
CREDITS UNDER NON-CGPA		NSS/NCC/Sports/Extra Curricular	Up to 6 (2 in each year)	
		Summer Internship	Up to 4 (2 in each after I & II years)	

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SEMESTER - I

MJR 101: FINANCIAL ACCOUNTING - I

PAPER CODE: MJR101

Max. Marks: 80U +20I=100

THPW: 5; Credits: 5

ESED: 3 hrs

Course Objectives:

- 1) To understand the accounting process.
- 2) To classify and record various business transactions in the respective subsidiary books.
- 3) To know the reasons for disagreement of cash book and bank pass book balances.
- 4) To identify and rectify the accounting errors at various stages of accounting cycle.
- 5) To prepare the final accounts of the sole trader.

Course Outcomes:

- 1) Describe and understand the accounting principles and recording of business transactions in Journal.
- 2) Prepare ledgers and subsidiary books.
- 3) Prepare and analyse the bank reconciliation statement.
- 4) Understand the way of rectification of errors in the books of accounts.
- 5) Understand the needs of preparing financial statements with adjustments.

UNIT-I:ACCOUNTING PROCESS:

Financial Accounting: Introduction – Definition – Evolution – Functions - Advantages and Limitations – Users of Accounting Information - Branches of Accounting – Accounting Principles: Concepts and Conventions - Accounting Standards – Meaning – Importance – List of Accounting Standards issued by ASB - Accounting System - Types of Accounts – Accounting Cycle – Journal - Ledger and Trial Balance (Including Problems)

UNIT-II:SUBSIDIARY BOOKS AND RECTIFICATION OF ERRORS:

Meaning– Types:PurchasesBook-PurchasesReturnsBook-SalesBook-SalesReturnsBook-Bills Receivable Book - Bills Payable Book – Cash Book: Single Column, Two Column, Three Column and Petty Cash Book - Journal Proper (Including Problems)

Rectification of Errors: Types of Errors - Suspense Account – Effect of Errors on Profit (Including Problems)

UNIT-III:BANK RECONCILIATION STATEMENT:

Meaning-Need-Reasons for differences between Cash Book and Pass Book balances–Favourable and Overdraft balances – Ascertainment of correct Cash Book balance (Amended Cash Book) - Preparation of Bank Reconciliation Statement (Including Problems)

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UNIT-IV:DEPRECIATION ACCOUNTING:

Depreciation (Ind-AS-16):Meaning – Causes – Difference between Depreciation, Amortization and Depletion - Objectives of providing for depreciation – Factors affecting depreciation –Accounting Treatment – Methods of Depreciation: Straight Line Method - Diminishing Balance Method and Sum of the Units Method (Including Problems)

UNIT-V:FINALACCOUNTS OF SOLE TRADER:

Capital and Revenue Expenditure – Capital and Revenue Receipts: Meaning and Differences -Deferred Revenue Expenditure.

Final Accounts of Sole Trader: Meaning- Uses- Preparation of Manufacturing, Trading and Profit & Loss Account and Balance Sheet – Adjustments – Closing Entries (Including problems)

SUGGESTEDREADINGS:

- 1) HaneefandMukherjee: Accountancy-I:TataMcGrawHill Company.
- 2) R. L. Gupta & V. K. Gupta: Principles & Practice of Accounting: Sultan Chand.
- 3) S. P.Jain&K. L.Narang:Accountancy-I:KalyaniPublishers.
- 4) Tulasian: Accountancy–I:Tata McGrawHillCompany.
- 5) T. S. Grewal:IntroductiontoAccountancy:S. ChandandCompany.
- 6) Prof.Prashanta Athma: Financial Accounting -I: Himalaya Publishing HousePvt Ltd.
- 7) S. N. Maheshwari & V. L. Maheswari:AdvancedAccountancy-I:Vikas Publishing House.
- 8) Deepak Sehgil: Fundamentals of Financial Accounting: Tax Mann Publication.
- 9) Jawahar Lal: Financial Accounting: Himalaya Publishing House.
- 10) Kamatam Srinivas: Financial Accounting –I : S Publishers.
- 11) Kamala Devi, Dr Padmalatha, Rachana Sharma : Financial Accounting-I : Professional Books Publisher.
- 12) Dr. K. Naveen Kumar: Financial Accounting -I: Vedashree Publishers.

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SEMESTER - I

MJR 102: BUSINESS ORGANIZATION AND MANAGEMENT

PAPER CODE: MJR102

Max. Marks: 80U +20I=100

THPW: 5; Credits: 5

ESED: 3 hrs

Course Objectives:

- 1) To know the forms of business organization.
- 2) To understand the meaning and classification of joint stock companies.
- 3) To know the meaning and functions of management.
- 4) To study the importance of planning and organizing in a business organization.
- 5) To differentiate the concepts of authority, power, accountability, responsibility, delegation and decentralization.

Course Outcomes:

- 1) Describe and understand the forms of business organization.
- 2) Knows the forms of companies and important documents.
- 3) Equips with the application of Fayol's 14 principles of management.
- 4) Understand the benefits of planning and organizing in an organization.
- 5) Gain confidence in proper use of authority, responsibility, centralization, decentralization, coordination, cooperation and control terms.

UNIT-I: INTRODUCTION:

Concepts of Business, Trade, Industry and Commerce - Objectives and functions of Business – Social Responsibility of a Business - Forms of Business Organization - Meaning, Characteristics, Advantages and Disadvantages of Sole Proprietorship – Meaning, Characteristics, Advantages and Disadvantages of Partnership - Kinds of Partners - Partnership Deed -Concept of Limited liability partnership – Meaning, Characteristics, Advantages and Disadvantages of Hindu Undivided Family – Meaning, Advantages and Disadvantages of Co-Operative Organization, One Person Company.

UNIT-II: JOINT STOCK COMPANY:

Joint Stock Company - Meaning - Definition - Characteristics - Advantages and Disadvantages - Kinds of Companies - Promotion - Stages of Promotion - Promoter - Characteristics - Kinds - Preparation of Important Documents - Memorandum of Association - Clauses - Articles of Association - Contents – Prospectus - Contents – Red herring Prospectus- Statement in lieu of Prospectus (As per Companies Act-2013).

UNIT-III: FUNCTIONS OF MANAGEMENT:

Management - Meaning - Characteristics - Functions of Management - Levels of Management – Organization Structure – Types of Organization Structure – Skills of Management - Scientific Management - Meaning - Definition - Objectives - Criticism – Fayol's Principles of Management.

UNIT-IV: PLANNING AND ORGANISING:

Meaning - Definition - Characteristics - Types of Plans - Advantages and Disadvantages – Approaches to Planning - Management by Objectives (MBO) - Steps in MBO - Benefits – Weaknesses—Definition of Organizing-Organization-Process of Organizing - Principles of Organization - Formal and Informal Organizations - Line, Staff Organizations - Line and Staff Conflicts - Functional Organization - Span of Control - Meaning - Determining Span – Factors influencing the Span of Control.

UNIT-V: AUTHORITY, COORDINATION AND CONTROL:

Meaning of Authority, Power, Responsibility and Accountability - Delegation of Authority - Decentralization of Authority - Definition, Importance, Process, and Principles of Coordination - Techniques of Effective Coordination - Control - Meaning - Definition – Relationship between Planning and Control - Steps in Control – Requirements for Effective Control.

SUGGESTED READINGS:

- 1) R K Sharma & Shashi K. Gupta : Business Organization & Management: Kalyani Publishers
- 2) Patrick Anthony: Business Organization & Management: Himalaya Publishing House
- 3) Dr. Manish Gupta, Business Organization & Management: PBP.
- 4) R. D. Agarwal: Organization & Management: McGraw Hill.
- 5) S.A. Sherlekar, V.S. Sherlekar: Modern Business Organization: Himalaya Publishing House
- 6) C.R. Basu: Business Organization & Management: Tata McGraw Hill
- 7) M.C. Shukla: Business Organization & Management: S. Chand,
- 8) D.S. Vittal: Business Organization and Management: S. Chand
- 9) V.S.P. Rao: Organizational Behavior Text & Cases: Himalaya Publishing House
- 10) Uma Shekaram: Business Organization & Management: Tata McGraw Hill
- 11) Dr. R. Sushama, Mrs. R. Renuka: Business Organisation and Management: Vedashree Publishers.
- 12) Dr. R. Sridhar : Business Organisation and Management : S Publishers.
- 13) Sherlekar & Khuspat Jain: Business Organization & Management: Himalaya Publishing House
- 14) R K Chopra: Office Organization & Management: Himalaya Publishing House
- 15) RS Gupta & BD Sharma: Principles and Practice of Management: Kalyani Publishers
- 16) RK Sharma: Principles of Management: Kalyani Publishers
- 17) Mrs. Vinaya Chaturvedi, Ms. Ankita Nagra, Mrs. R. Anuradha & Ms. B. S. Sai Leena: Business Organization & Management: Professional Books Publishers

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MJR103: DATA-DRIVEN DECISION MAKING

PAPER CODE: MJR 103:
THPW: 3T+4P; Credits: 5

Total Marks: 50T+35P+15I =100
ESED: 3 HRS

***Objective:** To make students to learn data-driven decision making.*

Course Objectives:

1. Identify challenges and opportunities in becoming a data-driven organization
2. Understand business analytics prerequisites and data-driven decision-making
3. Familiarize with business analytics ecosystem, including relational databases and big data
4. Manage data lifecycle and understand data requirements gathering process
5. Apply analytics tools and techniques to drive business decisions

Course Outcomes:

1. Design and implement data-driven solutions to business problems
2. Apply data analysis and visualization tools to communicate insights
3. Manage and analyze large datasets using relational databases and big data technologies
4. Gather and prioritize business requirements for data analysis projects
5. Develop data visualizations and communicate insights to stakeholders effectively

UNIT I: DISRUPTION:

Challenges: Identify hurdles to becoming a data-driven organization - Opportunities: Analyze data practices in the organization - Identify how data can benefit the organization - Distinguish how to be a proactive data practitioner

UNIT II: BUSINESS ANALYTICS PRE-REQUISITES:

Business Analysis Principles: Identify the categories of analytical people - Distinguish and define roles and responsibilities of professionals in data analysis - Data Driven Decision Making: Identify cultural barriers - Distinguish solutions to cultural and cross-functional barriers - Identify six steps of the data-driven decision-making model.

UNIT III: BUSINESS ANALYTICS ECOSYSTEM:

Relational Databases: Nature of relational databases - Purpose of the SQL language - Key aspects of ACID - Meaning of ETL - Not Only SQL: Big data and other data storage tools - Interacting with MongoDB - Document stores and graph stores - Big Data: Key functions of big data technologies - Utility of Hadoop - Purpose of MapReduce - Statistical Tool, Machine Learning, and Data Visualization: Tools for statistical analysis - Python and R - Purpose of machine learning - Visualization tools.

UNIT IV: DATA LIFECYCLE MANAGEMENT:

Data Life Cycle: Identify the stages in the data life cycle - Data in the organization: Distinguish between ways that data enters the organization - Identify the forms data takes as it is stored and used within the organization.

UNIT V: REQUIREMENTS GATHERING:

Requirements gathering process: Analyze why requirement gathering process is critical to proper analysis - 3 V's of data: Distinguish between the ways data is consumed (the three V's of data) -

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Customer journey map: Understand how requirement gathering fits with the development of a customer journey map - Distinguish between the stages of the customer journey map

SUGGESTED READINGS:

1. Data Analysis Fundamentals Certificate; AICPA
2. Fundamentals of Business Analytics, 2nd Edition; R N Prasad, Seema Acharya; Wiley
3. Business Analysis with Microsoft Excel and Power BI, 5th edition; Conrad G. Carlberg; Pearson
4. Monetizing Your Data: A Guide to Turning Data into Profit-Driving Strategies and Solutions; Andrew Roman Wells, Kathy Williams Chiang; Wiley
5. AI and Analytics, Accelerating Business Decisions; Sameer Dhanrajani; Wiley
6. Data Analytics with R; Bharti Motwani; Wiley.
7. Data Driven Decision Making: Dr. Ramesh Kumar Miryala, Kalyani Publisher.
8. Driven Decision Making: Mrs. R. Renuka: Vedashree Publishers
9. Data Driven Decision Making: Dr.K Vasanth: Professional Books Publisher
10. Business Analytics: From data to decision: Dr. Shubhabrata Das & Dr Soudeep Deb: University Press
11. Data Driven Decision Making Including Lab Practicals: Tulasi Ram Kandula: Himalaya Publishing House

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SEMESTER - II

Paper MJR 201: FINANCIAL ACCOUNTING-II

PAPER CODE: MJR 201

Max. Marks: 80U +20I=100

THPW: 5; Credits: 5

ESED: 3 hrs

***Objective:** To acquire Accounting knowledge of bills of exchange and other business accounting methods.*

Course Objectives:

1. Understand accounting treatment for bills of exchange, consignment accounts, and joint ventures
2. Develop skills in accounting for incomplete records and single entry system
3. Familiarize with accounting for non-profit organizations
4. Apply accounting principles and standards to various business transactions
5. Analyze and interpret financial statements for different types of organizations

Course Outcomes:

1. Prepare accounting records for bills of exchange, consignment accounts, and joint ventures
2. Convert incomplete records to double-entry system and prepare financial statements
3. Prepare financial statements for non-profit organizations, including receipts and payments account, income and expenditure account, and balance sheet
4. Apply accounting standards and principles to various business transactions and events
5. Analyze and interpret financial statements for informed decision-making

UNIT-I: BILLS OF EXCHANGE:

Bills of Exchange – Definition - Distinction between Promissory note and Bills of exchange - Accounting treatment of Trade bills: Books of Drawer and Acceptor- Honour and Dishonour of Bills - Renewal of bills - Retiring of bills under rebate – Endorsement of bills - Accommodation bills (Including problems)

UNIT-II: CONSIGNMENT ACCOUNTS:

Consignment - Meaning – Features - Proforma invoice - Account sales - Del credere commission-Accounting treatment in the books of the consignor and the consignee - Valuation of consignment stock (Focusing on proportionate non-recurring expenses) - Treatment of Normal and abnormal Loss - Invoice of goods at a price higher than the cost price (Including problems)

UNIT-III: JOINT VENTURE ACCOUNTS:

Joint Venture - Meaning – Features - Difference between Joint Venture and Consignment - Accounting Procedure - Methods of Keeping Records for Joint Venture Accounts - Method of Recording in co-ventures books (When separate books are not maintained) - Separate Set of Books Method - Joint Bank Account – Brief overview of Memorandum Joint Venture Account (Including problems)

UNIT-IV: ACCOUNTS FROM INCOMPLETE RECORDS:

Single Entry System - Meaning – Features - Difference between Single Entry and Double Entry systems - Defects in Single Entry System - Books and accounts maintained - Ascertainment of Profit - Statement of Affairs Method - Conversion method (Preparing complete trading, Profit and Loss Account and Balance Sheet (Including problems)

UNIT-V: ACCOUNTING FOR NON-PROFIT ORGANIZATIONS:

Non- Profit Organization - Meaning - Features - Receipts and Payments Account - Income and Expenditure Account - Balance Sheet Treatment of special items like Entrance Fees, Donations, Legacy, etc. – Calculation of consumption of consumables (E.g., Stationary, Medicines) and Stock adjustments (Including problems)

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SUGGESTED READINGS:

1. Accountancy-I: Haneef and Mukherjee, Tata McGraw Hill Co.
2. Principles and Practice of Accounting: R.L. Gupta & V.K. Gupta, Sultan Chand & Sons.
3. Accountancy-I: Tulasian, Tata McGraw Hill Co.
4. Financial Accounting -I: Prof. Prashanta Athma: Himalaya Publishing House Pvt Ltd.
5. Financial Accounting -II: Prof. K. Krishna Chaitanya: Kamala Devi, Kalyani Publishers-2025.
6. Financial Accounting- II: S.P. Jain & K.L. Narang, Kalyani publishers. 2nd Revised Edition- 2017
7. Advanced Accountancy-I: S.N.Maheshwari & V.L.Maheshwari, Vikas.
8. Advanced Accountancy: M Shrinivas & K Sreelatha Reddy, Himalaya Publishers.
9. Financial Accounting: M.N Arora, Tax Mann Publications.
10. Financial Accounting -I: Dr. K. Naveen Kumar: Vedashree Publishers-2024
11. Financial Accounting -II: Prof. Kamatam. Srinivas, S. Publications-2025.
12. Financial Accounting-II: Mrs. K.Archana, P.Subhashini, SV Publication. First Edition-2025
13. Financial Accounting-II: Dr Yogeshwaran, E.V. Chandramohan Sastry, Professional books Publishers. New edition-2025, Year of Publication-2018
14. Financial Accounting-II: Prof Prabhu Sahai, Mary Vinaya Sheela and Others, DL Publishers and Distributors-2025.
15. Financial Accounting-II: Dr K Naveen Kumar and Dr D SreeRam Vedashree Publishers- 2025.

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SEMESTER - II

Paper MJR 202: BUSINESS LAWS

PAPER CODE: MJR 202

Max. Marks: 80U +20I=100

THPW: 5; Credits: 5

ESED: 3 hrs

Objective: *To understand basics of contract act, sales of goods act, IPRs and legal provisions applicable for establishment, management and winding up of companies in India.*

Course Objectives:

1. Understand the fundamental principles and application of Indian Contract Act, 1872.
2. Analyze the Key provisions of the Sale Goods Act, 1930 and the Consumer Protection Act, 2019
3. Learn about the Intellectual Property Rights, (IPRs) Protection.
4. Understand Legal aspects of Company Management and Governance under the Companies Act, 2013.
5. Study the modern process of corporate insolvency and liquidation under the insolvency and bankruptcy Code (IBC), 2016

Course Outcomes:

1. Analyze and apply contract law principles to business transactions
2. Understand consumer rights and protection under the Consumer Protection Act
3. Identify and protect intellectual property rights, including trademarks, patents, and copyrights
4. Apply company law principles to manage companies and conduct meetings
5. Understand the process of winding up and insolvency laws, including the Insolvency and Bankruptcy Code

UNIT-I: INDIAN CONTRACT ACT, 1872:

Agreement and Contract : Definition - Essentials of a valid contract - Types of contracts (Valid Void Voidable, Unenforceable, Quasi-Contracts) – Formation of Contract: Offer and Acceptance - Essentials of valid offer and acceptance - Communication and revocation – Capacity and Consent: Competency to contract Free Consent (Coercion, Undue influence, Fraud, Misrepresentation, Mistake) – Consideration and Legality: Definition - Essentials of valid consideration (Nudum pactum), Agreements Declared Void (Restraint of Trade, Legal Proceedings) – Discharge and Breach: Modes of Discharge of a contract – Breach of Contract (Actual and Anticipatory)- Remedies for Breach (Damages, Specific Performance, Injunction, Rescission - Special Contracts (Introduction) – Overview of Contract Indemnity and Contract Guarantee.

UNIT-II: SALE OF GOODS ACT, 1930 AND CONSUMER PROTECTION ACT, 2019:

The Sale of Goods Act, 1930: Contract of Sale - Essentials of Valid Sale - Sale and Agreement to Sell – Definition and Types of Goods. Stipulations: Conditions and Warranties (Implied and Express) - Caveat Emptor and its Exceptions. Transfer of Title: Rules regarding Transfer of Property – Rights of Unpaid Seller: Definition of an Unpaid Seller - Rights of Unpaid Seller – Against the Goods and Against the Buyer personally. Consumer Protection Act, 2019 (Latest Act) Core Concepts: Definition of Consumer (Includes E-Commerce) - Goods - Service - Consumer Dispute – Unfair Trade Practices – Misleading Advertisement and Product Liability. Institutional Framework: Introduction to the Central Consumer Protection Authority (CCPA). Redressal Agencies: Consumer Dispute Redressal Commissions (District, State, National) - Compositions and Latest Monitory Jurisdiction Limits, E-Commerce and Digital Age: Key Provision of the Consumer Protection (E-Commerce) Rules, 2020 (e.g., Liability of Market Place vs. Inventory Model.

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UNIT-III: INTELLECTUAL PROPERTY RIGHTS (IPRS):

Trade Marks: Definition – Functions – Procedure for Registration, Duration and Renewal, Infringement and Passing off - Patents: Definition - Kinds of Patents –patentable and non-patentable Inventions - Rights of the Patentee - Transfer of the Patent Rights, Infringement - Copy Rights: Definition -Rights of the Copyright Owner -Terms of Copy Right - Infringement and Faire Use - Other Intellectual Property Rights: Introduction to Design Act, 2000 - Trade Secrets and Geographical Indications (GI).

UNIT-IV: MANAGEMENT OF COMPANIES AND CORPORATE GOVERNANCE:

Directors: Qualification - Disqualification – Position (Fiduciary) - Appointment (First Subsequent) - Removal - Duties and Liabilities – Loans and Directors – Independent Director (Brief Note) - Corporate Governance: Meaning – Need and Key Principles- Corporate Social Responsibility (CSR) – Provisions of Section135 of the Companies Act, 2013 Applicability – Composition of CSR Committee – Mandatory 2% Spending and Treatment of unspent amount –Meetings: Meaning - Requisites of Valid Meeting (Notice, Proxy, Agenda, Quorum) – Resolutions (Ordinary, Special) - Kinds of Meetings – Annual General Meeting (AGM) - Extraordinary General Meeting - Board Meetings (Frequency and Rules).

UNIT-V: CORPORATE INSOLVENCY AND WINDING UP:

Winding up under Companies Act, 2013: Meaning - Modes of Winding Up (Primarily Winding Up by tribunal on non-insolvency grounds like Fraud, Oppression) - Removal of name of the company (Striking Off) – Conditions and Procedure under the Companies Act. Insolvency and Bankruptcy code – 2016: Objective and Applicability – The Process – Overview of the Corporate Insolvency Resolution Process (CIRP) –Key Functionaries: National Company Law Tribunal (NCLT) – Committee of Creditors (CoC) – Insolvency Professional (IP) – Liquidation: Grounds for Liquidation and Brief on the Distribution of Assets (Order of Priority).

SUGGESTED READINGS:

- 1) Company Law: ND Kapoor, Sultan Chand and Co.
- 2) Company Law: Rajashree. – HPH
- 3) Business Law - Kavitha Krishna, Himalaya Publishing House
- 4) Business Laws – Dr. B. K. Hussain, Nagalakshmi – PBP
- 5) Business Law: V K Sareen, Kalyani Publishers. 1st Edition-2020
- 6) Company Law: Prof. G. Krishna Murthy, G. Kavitha, PBP
- 7) Company Law and Practice: GK Kapoor& Sanjay Dhamija, Taxmann Publication.
- 8) Business Law – Dr. Indrakanti Sekhar & Ms. Tulja Bhavani, SIA Publishing & Distributors Pvt. Ltd.
- 9) Company Law: Revised as per Companies Act- 2013: KC Garg et al, Kalyani Publication.
- 10) Corporate Law: PPS Gogna, S Chand.
- 11) Business Law: D.S. Vital, S Chand
- 12) Company Law: Bagrial AK, Vikas Publishing House.
- 13) Business Law: B.K. Hussain, S. Gopal Rao, Professional books Publishers, Edition-2024, Year of Publication – 2020.
- 14) Business Laws: Madhavi AVR, D. Bhaskara Lakshmi, SV Publication. First Edition-2025
- 15) Business Laws: S.P. Neehalika Bavya: S. Publishers.
- 16) Business Laws: Dr D Saritha and Prof Prabhu Sahai, DL Publishers and Distributors-2025.
- 17) Business Laws: Revathi Devi Mathur, Vedashree Publishers-2025.

(Applicable to the batch of students admitted in the academic year 2026-2027 onwards)

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FACULTY OF COMMERCE,TU

SEMESTER - II

Paper MJR 203: DATA ANALYTICS ESSENTIALS

PAPER CODE: MJR 203:

Total Marks: 50T+35P+15I =100

THPW: 3T+4P; Credits: 5

ESED: 3 HRS

Objective: *To make students learn Data Analytics Essentials*

Course Objectives:

1. Introduce the fundamental concepts of data, its types, lifecycle, and modelling techniques.
2. Provide knowledge and skills in data profiling and cleaning for ensuring data quality.
3. Develop an understanding of ETL processes, master data management, and data quality frameworks.
4. Familiarize students with data warehousing concepts, techniques, and modern tools.
5. Connect data analytics practices to business strategy and value creation through case studies.

Course Outcomes:

1. Explain the types of data, data lifecycle, and various data modelling techniques.
2. Apply data profiling techniques to identify anomalies, outliers, and quality issues.
3. Perform data cleaning using appropriate methods, tools, and frameworks.
4. Demonstrate understanding of ETL processes, data quality dimensions, and master data management approaches.
5. Differentiate between databases, data warehouses, and data lakes; design basic warehousing solutions.

UNIT I: UNDERSTANDING DATA (FOUNDATIONS):

Introduction to Data: Data, Role of data in organizations, Importance of data-driven decision making; Types of Data: Structured, Semi-structured, Unstructured,(Examples & use cases); Data Lifecycle: Phases: Creation, Storage, Usage, Archival, Destruction;Data lifecycle management: Benefits &Best practices; Data Modelling: Types: Conceptual, Logical, Physical, Levels of abstraction & techniques, Tools for data modelling, Advantages of structured modelling

UNIT II: DATA PROFILING AND CLEANING:

Data Profiling: Definition & importance, Scope: Exploratory vs Confirmatory profiling, Types of profiling, Profiling tasks; Benefits of profiling for analytics and governance; Tools of profiling, Data Cleaning, Common data issues, Cleaning activities, Standardization & normalization, Deduplication techniques, Outlier detection & treatment, Automation of cleaning processes; Benefits, Tools.: Talend, OpenRefine, Excel/Power Query, Python (Pandas, PyJanitor, Dedupe), R

UNIT III: ETL (EXTRACT, TRANSFORM, LOAD) AND DATA QUALITY:

Data Quality: Dimensions, Benefits of data quality management, Tools and features for data quality monitoring; Master Data Management (MDM); ETL Process: Stages: Extraction, Transformation, Loading, Benefits of ETL for analytics, ETL vs ELT approaches (pros and cons), Criteria for choosing the right ETL tool; Tools in Practice: Talend Data Integration: parts, features, benefits, Microsoft SSIS: overview and use cases

UNIT IV: DATA WAREHOUSING:

Introduction: Need for data warehousing in organizations, Key characteristics of data warehouses Database vs Data Warehouse, Transactional vs Analytical systems, OLTP vs OLAP; Types of Data Storage Systems: Data warehouse, data lake, data mart, Hybrid approaches; Techniques & Tools: Data warehousing techniques (schema design, partitioning, indexing), Data cubes and in-memory analytics, Data integration techniques (batch, real-time, virtualization), Tools: Snowflake, Amazon Redshift, Google BigQuery, Apache Hive

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UNIT V: BUSINESS STRATEGY & VALUE OF ANALYTICS:

Business Context in Analytics: Understanding organizational goals, Identifying business value from data, Role of analytics in strategic decision-making; Business Drivers: Linking analytics projects to corporate drivers, How drivers impact analytics adoption and strategic direction; Analytics Project Methodologies: CRISP-DM (phases and applications), Agile analytics approaches, Comparing methodologies for different business needs; Business Value Creation: Case studies across domains (finance, healthcare, retail, manufacturing); Measuring ROI from analytics projects, Examples of organizations leveraging analytics for competitive advantage

SUGGESTED READING:

1. **Data Science for Business**, *Authors:* Foster Provost, Tom Fawcett, *Publisher:* O'Reilly Media, 2013
2. **Data Warehousing in the Real World: A Practical Guide for Building Decision Support Systems**, *Authors:* Sam Anahory, Dennis Murray, *Publisher:* Pearson Education, 1997
3. **Mastering Data Modeling: A User-Driven Approach**, *Authors:* John Carlis, Joseph Maguire, *Publisher:* Addison-Wesley, 2000,
4. **Data Quality: The Accuracy Dimension**, *Author:* Jack E. Olson, *Publisher:* Morgan Kaufmann (Elsevier), 2003
5. **The Data Warehouse Toolkit: The Definitive Guide to Dimensional Modeling**, *Authors:* Ralph Kimball, Margy Ross, *Publisher:* Wiley, 2013 (3rd Edition)
6. **Data Analytics Essentials**: Dr. G.D. Rajani & V. Lakshmi Sudha, S.V. Publications. 1st Edition, 2025.
7. **Data Analytics Essentials**: Karipe Mahesh; S Publishers.
8. **Data Analytics Modeling**: M Yadigiri, Kalyani Publishers, 1st Edition, 2022.
9. **Data Analytics Essentials** : R Renuka, Veda Shree 2025.

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SEMESTER - III

Paper MJR 301: ADVANCED ACCOUNTING

PAPER CODE: MJR 301

Max. Marks: 80U +20I=100

THPW: 5; Credits: 5

ESED: 3 hrs

Objective: To enable undergraduate students to acquire comprehensive, advanced accounting knowledge concerning partnership frameworks and joint stock companies. The course is structurally aligned with professional accounting standards in India, preparing students to handle complex partnership transitions, manage corporate equity and debt issuances, and construct company final accounts under Schedule III of the Companies Act, 2013.

Course Objectives:

1. Understand partnership accounting for operational changes and ownership transitions
2. Apply accounting procedures for dissolution, insolvency, and corporate conversion of firms
3. Analyze corporate equity and debt structure including shares and debentures
4. Prepare company final accounts as per statutory requirements
5. Apply valuation techniques for goodwill and shares

Course Outcomes:

1. Record partnership transactions including admission, retirement, death, and adjustments of capital
2. Prepare accounts for dissolution of firms, including insolvency and piecemeal distribution using Garner vs. Murray rule
3. Account for issue, forfeiture, and re-issue of shares and debentures per Companies Act, 2013
4. Prepare Company Final Accounts with Schedule III compliance and allocate profits prior to incorporation
5. Compute goodwill and share values using Average Profits, Super Profits, Capitalization, Net Assets, and Yield methods

UNIT - I: PARTNERSHIP ACCOUNTS - I (OPERATIONAL & OWNERSHIP TRANSITIONS):

Foundations of Partnership: Meaning, Legal Framework of the Indian Partnership Act, 1932; Essential clauses and significance of a Partnership Deed; Maintenance of Capital Accounts — Fixed Capital Method vs. Fluctuating Capital Method; Accounting for Interest on Capital, Interest on Drawings, Salaries, and Commission to partners.

Admission of a Partner: Calculation of New Profit Sharing Ratio and Sacrificing Ratio; Treatment of Goodwill (Premium Method, Revaluation Method, and Memorandum Revaluation Method); Valuation and accounting treatment of accumulated profits, unrecorded assets, reserves, and revaluation of assets and liabilities; Adjustment of Partner Capitals based on new ratios.

Retirement and Death of a Partner: Calculation of New Profit Sharing Ratio and Gaining Ratio; Revaluation of assets/liabilities and treatment of goodwill upon retirement; Accounting treatment for the transfer of a retiring partner's balance to a Loan Account; Accounting for the Death of a Partner: Computation of a deceased partner's share of profit up to the date of dissolution (Excluding Joint Life Policy calculations) (*Theory and Numericals*).

UNIT - II: PARTNERSHIP ACCOUNTS - II (DISSOLUTION, INSOLVENCY & CORPORATE CONVERSION):

Dissolution of Partnership Firms: Meaning and Legal distinction between the dissolution of a partnership and the dissolution of a firm; Statutory provisions for the settlement of accounts upon dissolution (Section 48 of the Indian Partnership Act); Preparation of Realisation Account, Partner's Loan Account, Partner's Capital Accounts, and Cash/Bank Account.

Insolvency of Partners: Advanced application of the **Garner vs. Murray rule** (Distribution of capital deficiency caused by insolvency among solvent partners); Accounting treatment excluding the case of insolvency of all partners simultaneously.

Piecemeal Distribution & Corporate Sale: Piecemeal distribution of cash assets to partners during gradual liquidation (Maximum Loss Method and Surplus Capital Method); Conversion and sale of an

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ongoing partnership firm to a Limited Joint Stock Company — Computation of Purchase Consideration and final closing books of accounts of the firm (*Theory and Numericals*).

UNIT - III: CORPORATE EQUITY, DEBT ARCHITECTURE & SHARE CAPITAL LOGISTICS:

Issue of Shares: Overview of the Share Capital structure of corporate entities; Accounting mechanics for the issue of equity and preference shares at Par and Premium; Strict compliance with Section 52 of the Companies Act, 2013 regarding the statutory utilization of the Securities Premium Account; Pro-rata allotment mechanics, handling of calls-in-arrears and calls-in-advance.

Forfeiture & Capital Optimization: Accounting for the Forfeiture of shares and the Re-issue of forfeited shares under varied conditions; Deletion of discount issuances as per Section 53.

Debentures & Capital Reserve Allocations: Issue of Debentures — Accounting entries for the issue of debentures with explicit conditions of redemption (at par, premium); Underwriting of Shares and Debentures: Statutory provisions, determining underwriters' absolute and contingent liabilities (Gross, Net, and Marked applications); Bonus Shares: Meaning, Purpose, SEBI Guidelines for bonus issues, sources of capitalization, and accounting entry design (*Theory and Numericals*).

UNIT - IV: COMPANY FINAL ACCOUNTS & PRE-INCORPORATION RESTRUCTURING:

Company Final Accounts Framework: Structure and statutory mandates of the **Companies Act, 2013**; Thorough analysis and application of **Schedule III (Division I)**; General instructions, formats, and structural protocols for the presentation of the Corporate Balance Sheet (Part-I) and the Statement of Profit and Loss (Part-II).

Corporate Financial Reporting: Preparation of standard corporate Final Accounts including comprehensive modern adjustments (Current Corporate Tax provisions, Transfer to statutory Reserves, Managerial Remuneration adjustments, and Dividend Distribution constraints).

Profits Prior to Incorporation: Conceptual understanding of pre-incorporation and post-incorporation trading horizons; Principles governing the allocation of income and expenses between pre- and post-incorporation phases using Time Basis, Turnover Basis, and Specific Weighted Allocation methods; Accounting treatment and balance sheet presentation of pre-incorporation profits/losses (*Theory and Numericals*).

UNIT - V: VALUATION OF GOODWILL AND SHARES:

Valuation of Goodwill: Meaning, features, and corporate/regulatory circumstances necessitating the valuation of goodwill; Comprehensive methods of calculation: Average Profits Method (Simple and Weighted), Super Profits Method, and Capitalization Methods (Capitalization of Average Profits vs. Capitalization of Super Profits).

Valuation of Shares: Fundamental corporate needs for share pricing and asset valuation; Analytical methods of share valuation: Net Assets Method (Intrinsic Value factoring revalued assets), Yield Basis Method (Earning Capacity and Dividend Yield), and Fair Value Method; Interpreting valuation discrepancies between asset-backed and earning-backed assessment models (*Theory and Numericals*).

SUGGESTED READINGS:

1. R.L. Gupta & V.K. Gupta: Principles and Practice of Accounting:, Sultan Chand & Sons.
2. S.P. Jain & Narang: Advanced Accounting: Kalyani Publishers, Reprinted 2025.
3. BM Agarwal and MP Gupta: Advanced Accountancy: Sultan Chand and Son's Volume -1&2, New Delhi
4. R.L.Gupta&Radhaswamy: Advanced Accountancy: Sultan Chand & Sons.
5. S.N.Maheshwari&V.L.Maheshwari: Advanced Accountancy (Vol-II): Vikas Publishers.
6. Dr. G. Yogeshwaran, Julia Allen: Advanced Accountancy - PBP
7. Tulasian: Accountancy–III: Tata McGraw Hill Co.
8. Arulanandam: Advanced Accountancy: Himalaya Publishers.
9. S.P. Jain & K.L Narang: Advanced Accountancy–II: Kalyani Publishers.
10. Prof. Kamatam Srinivas: Advanced Accounting: S Publishers, .
11. Sumera Anwar, B. Sunitha, Y.Venkat Reddy Advanced Accounting, First Edition: SV Publications.
12. Guidance Note on the Revised Schedule VI to the Companies Act, 1956, The Institute of Chartered Accounts of India.
13. D. G. Sharma: Advanced Accounting (IPCC): Tax Mann Publications.

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SEMESTER - III

Paper MJR 302: BUSINESS STATISTICS -I

PAPER CODE: MJR 302

THPW: 5; Credits: 5

Max. Marks: 80U +20I=100

ESED: 3 hrs

Objective: *To inculcate analytical and computational ability among the students.*

Course Objectives:

1. Understand basic statistical concepts and methods of data collection
2. Organize and present data using classification, tabulation, diagrams, and graphs
3. Compute and interpret measures of central tendency for different data series
4. Analyze dispersion and shape of distributions using various statistical measures
5. Construct and apply index numbers for economic and business analysis

Course Outcomes:

1. Plan statistical investigations and collect primary and secondary data with awareness of errors
2. Classify, tabulate, and present data using bar diagrams, histograms, frequency curves, and other tools
3. Calculate and compare Mean, Median, Mode, Geometric Mean, and Harmonic Mean across individual, discrete, and continuous series
4. Measure dispersion using Range, Quartile Deviation, Mean Deviation, Standard Deviation, Coefficient of Variation, and interpret skewness and kurtosis
5. Construct index numbers using Laspeyres', Paasche's, and Marshall-Edgeworth methods, and apply tests of adequacy, base shifting, splicing, and deflating

UNIT I: INTRODUCTION, DATA ORGANIZATION AND PRESENTATION:

Meaning and scope of statistics. Importance and limitations of statistics in business and commerce; Statistical investigation: Planning of a statistical enquiry. Sources of data – primary and secondary data. Methods of collecting data. Census and sampling methods. Errors in statistical investigation and approximation; Organization of data: Classification and tabulation of data. Frequency distribution and grouped frequency tables; Diagrammatic and graphical presentation of data: Bar diagrams, component bar diagrams, pie diagrams and line graphs. Histograms, frequency polygon and frequency curve. Interpretation of statistical diagrams and graphs.

UNIT II: MEASURES OF CENTRAL TENDENCY:

Definition and types of data: Individual series, discrete series and continuous series; Meaning and importance of measures of central tendency; Arithmetic Mean – computation for individual, discrete and continuous series. Combined mean, Weighted Mean; Geometric Mean and Harmonic Mean – meaning, computation and applications.

Partition values – Median, Quartiles, Deciles and Percentiles, and Mode – calculation for different series and graphical location; Comparison of averages – advantages and limitations of different measures of central tendency.

UNIT III: MEASURES OF DISPERSION:

Meaning and significance of dispersion. Characteristics of a good measure of dispersion. Absolute and relative measures of dispersion. Measurement of dispersion through Range, Quartile Deviation, Mean Deviation and Standard Deviation – computation and applications for individual, discrete and continuous series; Relative measures of dispersion – Coefficient of Range, Coefficient of Quartile Deviation and Coefficient of Mean Deviation. Combined

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Standard Deviation – computation and applications; Applications of dispersion in business and economic analysis. Advantages and limitations of various measures of dispersion.

UNIT IV: RELATIVE DISPERSION AND SHAPE OF DISTRIBUTION:

Coefficient of Variation: Meaning and significance, Relative measure of dispersion, Computation and interpretation, Comparison of consistency and stability of two or more series; Lorenz Curve: Meaning and significance, Construction of Lorenz Curve, Measurement of inequality and concentration, Applications in income, wealth and market-share analysis; Skewness: Meaning and significance, Symmetrical and asymmetrical distributions, Positive and negative skewness, Karl Pearson's Coefficient of Skewness, Bowley's Coefficient of Skewness, Interpretation and applications; Kurtosis: Meaning and significance, Types of kurtosis, Interpretation of kurtosis in statistical analysis.

UNIT V: INDEX NUMBERS:

Meaning and importance of index numbers in economic and business analysis. Uses and limitations of index numbers; Problems in the construction of index numbers; Methods of constructing index numbers: Simple index numbers and weighted index numbers – Fisher, Laspeyres', Paasche's and Marshall–Edgeworth methods; Tests of adequacy of index numbers – Unit test, Time Reversal test and Factor Reversal test, Base shifting, splicing and deflating of index numbers.

SUGGESTED READINGS:

1. Levin & Rubin: Statistics for Management: Pearson Publications
2. Gupta S.C: Fundamentals of Statistics: Himalaya Publishers
3. Arun Kumar Singh: Business Statistics: Kalyani Publishers, First Edition 2017
4. S. L Aggarwal, S. L. Bhardwaj: Business Statistics: Kalyani Publications
5. E. Narayanan Nadar: Statistics: PHI Learning
6. Dr. Obul Reddy, Dr. D. Shridevi: Business Statistics –I: PBP
7. Dr. J. K. Thukral: Business Statistics: Taxmann Publications
8. Dr. Prashanta Athma, N. Rajyalaxmi: Business Statistics –I: SIA Publishers & Distributors Pvt. Ltd.
9. K. Alagar: Business Statistics: Tata McGraw Hill
10. S. P Gupta: Fundamentals of Statistical: Sultan Chand
11. Dr. Padmaja, K.Kamakshi: Business Statistics-I: SV Publications, First Edition
12. J. K. Sharma: Business Statistics: Vikas Publishers
13. Dr. Nazia Sultana: Business Statistics- 1: S Publishers
14. Kapoor V.K: Statistics-Problems and Solutions: S. Chand
15. Sancheti D.C. & Kapoor: Statistics - Theory, Methods and Applications: V.K
16. S. K. Chakravarty: Business Statistics: New Age International Publishers
17. Andasn,Sweenly,Williams: Statistics: Cengage.

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SEMESTER - III

Paper MJR 303: DATA ANALYTICS MODELING

Hours Per Week: (3T+4P)

Credits: 5

Exam Hours: 3

Marks: 50T+35P+15I

Objective: To make students to learn data Analytics Modeling.

Course Objectives

1. Understand the role of variables, data types, measurement scales, and data preparation techniques for business analytics
2. Apply descriptive statistics using Excel to summarize data through measures of central tendency, dispersion, position, and shape of distribution
3. Create and interpret data visualizations in Excel using appropriate chart types to identify trends, patterns, and relationships
4. Develop fundamental R programming skills for data structures, importing data, exploration, and basic scripting in analytics
5. Perform statistical analysis and advanced data visualization in R including correlation, outlier detection, heat maps, and case-based applications

Course Outcomes:

1. Identify types of variables, measurement scales, and prepare datasets through cleaning, transformation, and creation of dummy variables for analysis
2. Summarize and interpret business data using measures of central tendency, dispersion, position, skewness, kurtosis, correlation, and covariance in Excel
3. Create and customize charts in Excel including bar, line, pie, histogram, scatter, box plot, and pivot charts to visualize trends, patterns, and outliers
4. Use R programming for data structures like vectors and data frames, import data, and perform basic scripting for data exploration
5. Perform statistical analysis and advanced visualization in R using descriptive measures, heat maps, density plots, and correlation analysis for business insights

UNIT I: VARIABLES AND DATA STRUCTURES FOR ANALYTICS:

Introduction to variables in analytics – Meaning and importance of variables in data analysis; Role of variables in business decision-making; Types of variables – Independent and Dependent variables, Quantitative and Qualitative variables, Discrete and Continuous variables; Measurement scales – Nominal, Ordinal, Interval and Ratio scales; Structure of datasets – Data matrices and tabular representation of data; Introduction to data preparation for analysis – data cleaning, data transformation, standardization and normalization; Creation of dummy variables for categorical data; Introduction to Exploratory Data Analysis (EDA) – purpose and basic techniques for preliminary examination of data.

UNIT II: DESCRIPTIVE ANALYTICS

Introduction to descriptive analytics and its role in data-driven decision-making; Organizing and summarizing business data using Excel; Measures of central tendency – Mean, Median and Mode using Excel functions and their interpretation in business contexts; Measures of position – Quartiles, Deciles and Percentiles and their use in understanding data distribution; Measures of dispersion – Range, Variance, Standard Deviation and Coefficient of Variation using Excel; Shape of data distribution – Skewness and Kurtosis and their interpretation; Analysis of relationships between variables using Correlation and Covariance functions in Excel and their applications in business analysis; Understanding the appropriate use of statistical measures for analyzing business data and supporting managerial decision-making.

UNIT III: DATA VISUALIZATION AND RELATIONSHIP ANALYSIS USING EXCEL:

Introduction to data visualization in analytics; Importance of graphical representation in understanding business data; Creation and interpretation of charts in Excel – Column and Bar charts (including types), Line graphs, Pie charts, Area charts, Histograms, Scatter plots, Bubble charts, Box and Whisker plots, Waterfall charts, Funnel charts, Tree maps, Surface charts, Map charts, and Combo charts; Use of Pivot charts for dynamic data visualization; Understanding the selection of appropriate charts based on data type and analytical requirement; Components of charts – axes, titles, legends, labels and scales; Basic formatting and customization techniques in Excel for effective presentation; Identification of trends, patterns, relationships and outliers through visual analysis; Application of data visualization techniques for business insights and managerial decision-making.

UNIT IV: FUNDAMENTALS OF R PROGRAMMING FOR DATA ANALYTICS:

Introduction to R programming and its importance in data analytics; Overview of R environment and RStudio interface; Basic syntax and commands in R; Data types in R – Numeric, Character and Logical; Data structures in R – Vectors, Matrices, Lists and Data Frames; Creating and manipulating vectors and data frames; Importing data from external sources such as CSV and Excel files; Data exploration and summary functions in R; Basic data manipulation and simple scripting in R; Writing and executing R scripts for data analysis.

UNIT V: STATISTICAL ANALYSIS AND DATA VISUALIZATION USING R:

Descriptive statistical analysis using R: Measures of central tendency and dispersion using R; Advanced distribution analysis – Quartiles, Deciles, Percentiles and Interquartile Range using R; Identification of outliers using statistical methods in R; Data visualization using R – Bar charts, Pie charts, Line charts, Histograms, Scatter plots, Box plots and Density plots; Advanced visualization techniques – Heat maps and enhanced graphical representations; Correlation analysis using R and visualization through scatter plots and heat maps; Writing simple scripts and user-defined functions; Application of R in business analytics through case studies.

SUGGESTED READINGS:

1. Data Analytics Modeling Certificate; AICPA
2. R N Prasad, Seema Acharya: Fundamentals of Business Analytics, 2nd Edition; Wiley
3. Uma Bakshi: Data Analytics Modelling; Kalyani Publishers, Year of Publication: 2023, Reprinted 2025.
4. Conrad G. Carlberg; Business Analysis with Microsoft Excel and Power BI, 5th edition; Pearson
5. R; Bharti Motwani: Data Analytics with Wiley
6. P. Arun Reddy, V. Lakshmi Sudha: Data Analytics Modeling: SV Publications, First Edition
7. Karipe Mahesh and Srikantalahari: Data Analytics Modeling: S Publishers

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SEMESTER - IV

Paper MJR 401: CORPORATE ACCOUNTING

PAPER CODE: MJR 401

THPW: 5; Credits: 5

Max. Marks: 80U +20I=100

ESED: 3 hrs

Objective: To provide an advanced understanding of corporate accounting procedures in accordance with current Accounting Standards (AS) and Indian Accounting Standards (Ind AS). The course aims to equip students with the expertise required for complex corporate restructuring, regulatory reporting for specialized sectors (Banking and Insurance), and corporate insolvency resolution.

Course Objectives:

1. Understand corporate insolvency, liquidation procedures, and IBC, 2016 framework
2. Apply accounting standards for amalgamation, absorption, and external reconstruction as per AS-14
3. Examine internal reconstruction schemes and accounting for business acquisitions
4. Prepare financial statements of banking companies per Banking Regulation Act, 1949
5. Understand insurance accounting and compute claims for loss of stock and loss of profit

Course Outcomes:

1. Prepare Statement of Affairs, Deficiency Account, and Liquidator's Final Statement of Account with order of payment
2. Compute purchase consideration and pass journal entries for amalgamation under Pooling of Interest and Purchase methods
3. Account for capital reduction and prepare post-reconstruction balance sheets under Section 66 of Companies Act, 2013
4. Prepare Form A and Form B for banking companies, including treatment of NPA, income recognition, and rebate on bills discounted
5. Prepare Revenue Account and Balance Sheet for life and general insurance, and compute insurance claims with Average Clause

UNIT-I: CORPORATE INSOLVENCY & LIQUIDATION:

Regulatory Framework: The Insolvency and Bankruptcy Code (IBC), 2016 (brief overview); Modes of Winding Up.

Liquidator's Mechanics: Statement of Affairs, Deficiency/Surplus Account; Classification of Creditors (Secured, Preferential, Unsecured); Order of Payment.

Accounting Treatment: Liquidator's Remuneration; Preparation of Liquidator's Final Statement of Account; Distribution of surplus to contributories (*Theory and Numericals*).

UNIT-II: AMALGAMATION, ABSORPTION & EXTERNAL RECONSTRUCTION (AS-14):

Conceptual Framework: Distinguishing between Amalgamation in the nature of Merger and Amalgamation in the nature of Purchase (AS-14).

Purchase Consideration: Advanced methods of calculating consideration (Lump Sum, Net Assets, and Net Payment methods).

Accounting Treatment: Pooling of Interest Method vs. Purchase Method; Journal entries in the books of the Transferor Company (closing entries) and Transferee Company (incorporation entries); Treatment of inter-company holdings, unrealized profits, and debenture conversion (*Theory and Numericals*).

UNIT-III: INTERNAL RECONSTRUCTION & CORPORATE ACQUISITION:

Internal Reconstruction: Statutory provisions (Section 66 of the Companies Act, 2013); Accounting for Capital Reduction (Reduction of Share Capital, Alteration of Share Capital); Preparation of Reconstruction Schemes and post-reconstruction Balance Sheets.

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Acquisition of Business: Business combinations; Accounting when new books are opened versus when original books are continued; Accounting for debtors/creditors taken over; Vendor's account adjustments and goodwill/capital reserve computation (*Theory and Numericals*).

UNIT-IV: FINANCIAL REPORTING OF BANKING COMPANIES:

Regulatory Environment: Banking Regulation Act, 1949; Classification of Advances: Performing vs. Non-Performing Assets (NPA) and Income Recognition norms.

Accounting Mechanics: Slip system of posting; Rebate on Bills Discounted (accounting and provision); Preparation of Final Accounts in the prescribed

Form A and Form B (Profit & Loss Account and Balance Sheet); Asset Classification and Provisioning requirements (*Theory and Numericals*).

UNIT-V: INSURANCE ACCOUNTING & CLAIMS:

Life Insurance: Meaning, regulatory compliance (IRDAI); Preparation of Revenue Account, Net Revenue Account, and Balance Sheet; Valuation Balance Sheet; Determination of Net Surplus and its distribution.

General Insurance: Fire and Marine insurance accounting; Preparation of Revenue accounts for various sub-segments.

Insurance Claims: Computation of claims for Loss of Stock (including Average Clause and abnormal items) and Loss of Profit (Consequential Loss policies) (*Theory and Numericals*).

SUGGESTED READINGS:

1. S.N.Maheshwari&V.L.Maheswari: Advanced Accountancy (Vol-II): Vikas.
2. Tulasian: Accountancy–III: Tata McGraw Hill Co.
3. S.P. Jain & Narang: Corporate Accounting: Kalyani Publishers, Second Revised Edition, Year of Publication: 2018.
4. BM Agarwal and MP Gupta: Corporate Accounting: Volume 2 Sultan Chand and Son's, New Delhi
5. R.L.Gupta&Radhaswamy: Advanced Accountancy: Sultan Chand & Sons
6. Arulanandam: Advanced Accountancy: Himalaya Publisher
7. S.P. Jain & K.L Narang: Advanced Accountancy–II: Kalyani Publishers
8. Chandra Bose: Advanced Accounting (Vol-II): PHI
9. Shukla and Grewal: Advanced Accountancy: S.Chand& Co
10. Sakshi Vasudeva: Corporate Accounting: Himalaya.
11. K. Phani Chakravarthy, Y.Venkat Reddy: Corporate Accounting: SV Publications First Edition

(Applicable to the batch of students admitted in the academic year 2026-2027 onwards)

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FACULTY OF COMMERCE,TU

SEMESTER - IV

Paper MJR 402: BUSINESS STATISTICS - II

PAPER CODE: MJR 402

THPW: 5; Credits: 5

Max. Marks: 80U +20I=100

ESED: 3 hrs

Objective: *To inculcate analytical and computational ability among the students.*

Course Objectives:

1. Understand correlation concepts and methods to measure relationships between variables
2. Apply regression analysis for estimation, prediction, and business forecasting
3. Analyze time series data and measure trend and seasonal variations
4. Understand probability theory, laws, and their application in decision making
5. Examine probability distributions and their use in business and economic analysis

Course Outcomes:

1. Compute and interpret Karl Pearson's and Spearman's correlation, covariance, and coefficients of determination
2. Derive regression equations, estimate regression coefficients, and use standard error of estimate for forecasting
3. Measure trend using graphic, semi-averages, moving averages, and least squares methods, and compute seasonal variations
4. Apply addition and multiplication theorems, conditional probability, and Bayes' Theorem to business problems
5. Fit and apply Binomial, Poisson, and Normal distributions, and use Central Limit Theorem for practical analysis

UNIT I: CORRELATION:

Meaning and types of correlation – positive, negative, simple, multiple, partial, linear and non-linear correlation. Correlation and causation. Methods of studying correlation: Scatter diagram, Concurrent Deviation Method, Karl Pearson's coefficient of correlation and Spearman's rank correlation coefficient. Covariance and its relationship with Correlation. Standard error and probable error of the coefficient of correlation. Coefficient of determination, coefficient of non-determination and coefficient of alienation. Interpretation, applications and limitations of correlation in business and economic analysis.

UNIT II: REGRESSION ANALYSIS:

Meaning and significance of regression analysis. Difference between correlation and regression. Types of regression – linear and non-linear regression. Lines of regression – regression line of Y on X and regression line of X on Y; Regression equations and regression coefficients – derivation of regression equations, estimation of regression coefficients, properties of regression coefficients, and relationship between correlation coefficient and regression coefficients. Standard Error of Estimate – meaning, computation and interpretation. Prediction and forecasting using regression equations. Applications of regression analysis in business and economic decision-making. Limitations of regression analysis.

UNIT III: TIME SERIES ANALYSIS:

Meaning and importance of time series in business and economic analysis. Components of time series – Trend, Seasonal, Cyclical and Irregular Variations; Measurement of Trend: Graphic Method, Semi-Averages Method (for even and odd number of years/periods), Moving Averages Method (3-year, 4-year, 5-year and 7-year moving averages; centering of moving averages where necessary); Least Squares Method (Linear Trend); Measurement of Seasonal Variations: Simple Averages Method, Ratio-to-Moving Average Method, Link Relative Method, Applications, Uses and Limitations of Time Series Analysis in business and economic studies.

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UNIT IV: PROBABILITY THEORY:

Meaning and importance of probability. Random experiments, sample space and events. Types of events – simple and compound events, mutually exclusive events, collectively exhaustive events and independent events. Basic concepts of set theory relevant to probability. Approaches to probability – classical, empirical and subjective approaches; Laws of probability – Addition Theorem and Multiplication Theorem. Conditional probability and Bayes' Theorem. Applications of probability in business and decision-making.

UNIT V: PROBABILITY DISTRIBUTIONS:

Binomial Distribution: Assumptions and characteristics, Properties of Binomial Distribution, Computation of probabilities, Fitting of Binomial Distribution; Poisson Distribution: Assumptions and characteristics, Properties of Poisson Distribution, Computation of probabilities, Fitting of Poisson Distribution; Normal Distribution: Characteristics and properties of Normal Distribution, Standard Normal Distribution, Computation of probabilities using Normal Distribution tables, Applications of Normal Distribution in business and economics, Central Limit Theorem – concept and significance.

SUGGESTED READINGS:

1. Levin & Rubin: Statistics for Management: Pearson Publications,
2. Gupta S.C: Fundamentals of Statistics: Himalaya
3. Arun Kumar Singla: Business Statistics II: Kalyani Publishers, Year of Publication: 2018, Reprinted 2025.
4. P. N. Jani: Business Statistics: Theory & Application, PHI Learning
5. S. L Aggarwal: Business Statistics II: Kalyani Publications
6. Dr. OBul Reddy, Dr. D. Shridevi: Business Statics – II: PBP
7. Dr. J. K. Thukral: Business Statistics: Taxmann Publications
8. Dr. Prashanta Athma, N. Rajyalaxmi: Business Statistics –II: SIA Publishers & Distributors Pvt. Ltd.
9. K. Alagar: Business Statistics: Tata Mc Graw Hill
10. S. P Gupta: Fundamentals of Statistical: Sultan Chand
11. J. K. Sharma: Business Statistics: Vikas Publishers
12. Vora: Business Statistics: Tata Mc Graw Hill
13. Kapoor V.K: Statistics-Problems and Solutions: S. Chand
14. SanchetiD.C. & Kapoor V.K: Statistics-Teory, Methods and Applications:
15. S. K. Chakravarty: Business Statistics: New Age International Publishers
16. Dr. G.Laxman,Vasudeva Reddy & K.Goud, Business Statistics: TaxmannPublications,Hyderabad.
17. Dr. Nazia Sultana: Business Statistics-II: S Publishers
18. S. Bhagya Laxmi, Gampala Sudhakar: Business Statistics-II: SV Publications, First Edition

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SEMESTER - IV

Paper MJR 403: FORECASTING & PREDICTIVE ANALYTICS

Hours Per Week: (3T+4P)

Credits: 5

Exam Hours: 3

Marks: 50T+35P+15I

Objective: To make students to understand the Analytics of Forecasting & Predictive

Course Objectives:

1. Understand supervised learning concepts and build regression models including simple, multiple, and logistic regression for prediction
2. Apply distance measures and classification techniques like KNN, Naïve Bayes, Decision Trees, and SVM to business problems
3. Examine clustering methods and association rules for unsupervised learning applications such as segmentation and market basket analysis
4. Develop time series forecasting models and formulate linear programming problems for prescriptive analytics
5. Integrate simulation, decision modelling, and model evaluation techniques to build end-to-end analytical solutions with ethical considerations

Course Outcomes:

1. Formulate and interpret linear and logistic regression models, assess R^2 , Adjusted R^2 , multicollinearity, and perform residual diagnostics
2. Select appropriate distance metrics and implement classification algorithms, then evaluate models using confusion matrix, ROC, and F1-score
3. Apply K-Means and hierarchical clustering, determine clusters using Elbow method, and interpret support, confidence, and lift in association analysis
4. Analyze time series components, apply moving averages and exponential smoothing, and solve LP problems using graphical and Simplex concepts
5. Build Monte Carlo simulations, conduct sensitivity and what-if analysis, and integrate regression, classification, clustering, and optimization into decision models

UNIT I: REGRESSION MODELLING AND MODEL EVALUATION

Introduction to Predictive Modelling: Concept of supervised learning; Dependent and independent variables in predictive analytics; Model building process; Training and testing data; Simple Linear Regression: Model formulation and assumptions; Estimation of parameters; Interpretation of regression coefficients; Coefficient of determination (R^2) and Adjusted R^2 ; Residual analysis and diagnostic checking; Multiple Linear Regression: Model specification; Interpretation of partial regression coefficients; Multicollinearity; Model adequacy and goodness of fit; Logistic Regression: Binary classification problems; Logit model; Odds ratio interpretation; Applications in customer churn, credit risk, and fraud detection; Model Evaluation and Validation: Overfitting and underfitting; Cross-validation; Performance metrics for regression models; Practical interpretation of predictive accuracy in business contexts.

UNIT II: DISTANCE MEASURES AND CLASSIFICATION TECHNIQUES

Distance and Similarity in Analytics: Concept of distance in multidimensional space; Meaning of dimensionality; Implications of high dimensional data; Euclidean distance; Manhattan distance; Minkowski distance; Cosine similarity; Selection of appropriate distance measure in business problems; Introduction to Classification: Concept and applications in business analytics; Supervised learning framework; Classification workflow; k-Nearest Neighbour (KNN): Role of distance metrics in KNN; Selection of optimal k; Applications in recommendation systems and risk classification; Evaluation of KNN models; Naïve Bayes Classification: Probabilistic classification approach; Assumptions of independence; Applications in marketing and fraud detection; Decision Trees: Structure and components;

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Splitting criteria; Tree construction and pruning; Applications in decision analysis; Support Vector Machine (Conceptual): Hyperplane and margin; Support vectors; Basic kernel concept; Applications in business classification problems; Classification Model Evaluation: Confusion matrix; Accuracy, Precision, Recall, F1-score; ROC Curve and AUC; Business implications of classification errors.

UNIT III CLUSTERING AND ASSOCIATION RULES

Clustering in Data Analytics: Meaning and importance of clustering; Concept of unsupervised learning; Differences between supervised and unsupervised learning; Applications of clustering in business analytics such as customer segmentation and market analysis; K-Means Clustering: Basic concept and working of the algorithm; Interpretation of clusters; Determining the number of clusters using the Elbow method; Business applications of clustering; Hierarchical Clustering (Conceptual): Agglomerative approach; Dendrogram and its interpretation; Association Analysis: Concept of association in data analytics; Market Basket Analysis; Measures of association – Support, Confidence and Lift (basic interpretation only); Business applications such as product bundling, cross-selling and recommendation systems; Applications of Unsupervised Learning in Business: Customer behaviour analysis; product grouping; marketing strategy development.

UNIT IV: TIME SERIES FORECASTING AND OPTIMIZATION

Time Series Analysis: Components of time series – Trend, Seasonal, Cyclical and Irregular variations; Decomposition methods; Forecasting Techniques: Moving averages; Weighted moving averages; Exponential smoothing; Seasonal indices; Forecast accuracy measures; Introduction to Optimization: Concept of prescriptive analytics; Objective function; Constraints; Feasible region.

Linear Programming: Formulation of linear optimization problems; Graphical method; Conceptual understanding of Simplex method; Applications in product mix, resource allocation and cost minimization; Integration of Forecasting and Optimization: Using forecasts for optimal decision-making.

UNIT V: SIMULATION AND DECISION MODELLING

Introduction to Simulation: Concept and need for simulation in business decision-making; Deterministic vs stochastic models; Monte Carlo Simulation: Random number generation; Probability-based modelling; Construction of simulation models; Iterative experimentation;; Risk and Scenario Analysis: Sensitivity analysis; What-if analysis; Measuring variability in outcomes; Decision Modelling Framework: Integrating regression, classification, clustering, forecasting and optimization into structured analytical problem-solving; Model interpretation and communication of results; Ethical considerations in predictive modelling; Application-Based Modelling: Development of end-to-end analytical solutions using historical data for prediction, optimization and risk evaluation in business contexts.

SUGGESTED READINGS:

1. Certificate; AICPA: Forecasting and Predictive Analytics
2. R N Prasad, Seema Acharya; Fundamentals of Business Analytics, 2nd Edition; Wiley
3. Conrad G. Carlberg: Business Analysis with Microsoft Excel and Power BI, 5th edition; Pearson
4. Bharti Motwani: Data Analytics with R; Wiley
5. Dr. Srikantalahari Sagi: Forecasting and Predictive Analytics, Kalyani Publishers, First Edition.
6. Dr. Selvakumar and Dr. A. Rajini: Forecasting and Predictive Analytics: S Publishers
7. P. Arun Reddy, Dr. G.D.Rajini: Forecasting & Predictive Analytics: SV Publications, First Edition