

SCHEME OF INSTRUCTION AND SYLLABUS

Master of Business Administration

-Business Analytics

(In association of IBM)

From Academic Year: 2025-26 Onwards

MBA



**FACULTY OF COMMERCE &
MANAGEMENT**

United University
Rawatpur - Jhalwa (Prayagraj)
Uttar Pradesh

University Vision

To establish a value based global university having dynamic learning environment encouraging creativity and innovation, research inspired experiential learning and focusing on topics that are pertinent to the development of the region, the country and the world.

University Mission

- To provide a dynamic, inspiring and varied learning environment with global exposure.
- To position the institution as a premier hub for research and experiential learning.
- To develop into an adaptable University meeting the demands of society and business.
- To incorporate value thinking, integrity, wisdom and passion in professional for their career and life.

Department Vision

To achieve global competence by evolving thought leadership, innovative and creative solution, making socially responsible business leaders through flexible, value based, management education driven by high quality research and collaboration.

Department Mission

1. To nurture responsive ethical leaders sensitive to environment and society.
2. To encourage critical thinking and continuous improvement.
3. To inculcate a culture of innovation and entrepreneurship.
4. To create and disseminate knowledge through applied and inter-disciplinary research and practices in emerging areas of management.

Program Educational Objectives (Postgraduate)

PEO 1: To train the students of the management program for logical and practical approach to problem solving and functions effectively as skilled managers who can respond to changing environment in a social and global context.

PEO 2: To groom the students to work in multicultural and multidisciplinary teams for effective problem solving and understand the principles of group dynamics, team work and growth of management profession.

PEO 3: To encourage and train the students as a way that they can pursue higher studies, start independent ventures, thereby contributing to the fields of education and business world.

Program Outcomes

On successful completion of the MBA programme the student will be able to:

PO 1: Ability to apply management fundamentals in practical world.

PO 2: An ability to identify, formulates, and solve managerial problems.

PO 3: Demonstrate abilities such as initiative taking and innovative thinking in their acts.

PO 4: An ability to function in multi-disciplinary teams.

PO 5: To inculcate zeal of self-learning.

PO 6: Enhancing entrepreneurship abilities so that the students are induced to undertake independent ventures.

PO 7: An ability to understand professional and ethical responsibility.

PO 8: An ability to communicate effectively.

PO 9: Enhancing knowledge of contemporary issues.

PO 10: Recognizing the need and ability to engage in life-long learning.

PO 11: An ability to understand the impact of managerial solutions in a global, economic, environmental, and societal context.

PO 12: Ensuring holistic development of students.

Program Specific Outcomes

PSO1: To apply the fundamental knowledge of management science to optimally solve the complex business problems.

PSO2: To inculcate in students the ability to gain multidisciplinary knowledge through simulated problems, case analysis, projects and industrial training.

PSO3: To demonstrate the practice of professional ethics and standards for societal and environmental well-being.

SCHEME OF INSTRUCTION

COURSE CATEGORY ABBREVIATIONS

1. Core Courses
2. Specialization Elective (SE)
3. Generic Electives (GE)/ Open Elective (OE)
4. Ability Enhancement Compulsory Courses (AECC)
5. Skill Enhancement Courses (SEC)

Semester I

							Contact Hours	32
S. No.	Course Code	Course Category	Course Name	L	T	P	C	
1	CMPCMA101T	Core Courses	Foundations of Management	4	0	0	4	
2	CMPCMA102T		Managerial Economics	4	0	0	4	
3	CMPCMA113T		Accounting for Managers	4	0	0	4	
4	CMPCMA112T		Organizational Behaviour	4	0	0	4	
5	CMPCMA111T		Business Legislation for Managers	4	0	0	4	
6	CMPCMA106T		Statistics for Managers	4	0	0	4	
7	CASCMMMA11T		Computer Application in Business	1	0	1	2	
8	PTSPMMA11T		Professional Proficiency	2	0	0	2	
9	CMPIMA103T		Data Visualization for Managers	4	0	0	4	
							Total Credits	32

Abbreviations: (L) Lecture, (T) Theory, (P) Practical, (C) Credits

Semester I

COURSE CODE & NAME: CMPCMA101T / FOUNDATION OF MANAGEMENT

Course Outcomes: On completion of the course the student will be able to:

1. Describe the influence of historical forces on the current practice of management. Students will be able to understand principles and functions of management.
2. Describe the process of management's four functions: planning, organizing, leading, and controlling.
3. Evaluate leadership styles to anticipate the consequences of each leadership style.
4. Develop cognizance of the importance of management principles.
5. Identify and evaluate social responsibility and ethical issues involved in business situations and logically articulate own position on such issues.
6. To understand tools and techniques to be used in the performance of the managerial job.

UNIT 1: INTRODUCTION OF MANAGEMENT

concept & nature of management; management competencies-communication, team work, planning and administrative, strategic and global competencies; evolution of management thoughts-traditional, behavioral, systems contingency and quality viewpoints, social responsibility of managers, Managerial Ethics.

UNIT 2: PLANNING, DECISION MAKING AND ORGANIZING

Concept of planning, Significance of planning, Classification of planning: Strategic plan, Tactical plan and Operational plan, Process of planning, Barriers to effective planning. Management by Objective, Management by Exception.

Organizing: Defining organizing, Principles of organizing, Process of organizing, Types of Organizational structure, Span of control, Centralization vs. Decentralization of authority. Informal organization Strategies of decision-making, Steps in rational decision-making process, Factors influencing decision-making process, psychological bias and decision support system.

UNIT 3: PRINCIPLES OF WRITTEN COMMUNICATION AND BUSINESS COMMUNICATION

7 Cs of written communication. Deductive, Inductive & AIDA approach to writing business letters.

Business Correspondence: Letter Writing, Presentation, Inviting Quotations, Sending Quotations, Placing Orders, Inviting Tenders, Sales Letters, Claim & Adjustment Letters and Social Correspondence, Memorandum, Inter-Office Memo, Notices, Agenda, Minutes.

Employment Communication: Job Application Letter, Preparing Resume, Difference between Resume and CV. Group Discussions: Introduction, Concept, Purpose, Types of Group Discussion, Strategies to Succeed, Interview Skills: Introduction, Concept, Purpose, Types of Interview. Candidate Strategies to Succeed, Dos and Don'ts.

UNIT 4: STAFFING AND DIRECTING

Concept, Objective of staffing, System approach to staffing, Manpower planning.

Directing: Concept, Techniques of directing and supervision, Types of supervision, Essential characteristics of supervisor.

UNIT 5: LEADERSHIP AND CONTROL

Leadership vs Management, Process of Leadership, Importance of leadership, Characteristics of an effective leader. Controlling: Concept, Importance of controlling, Types of control, Steps in control process.

Recommended Text Books:

- T1. Robbins & Coulter – “Management” Prentice Hall of India, 10th Edition, 2010

Recommended Reference Books:

- R1.** Stoner, Freeman & Gilbert “Management” Prentice Hall of India, 6th Edition
- R2.** L.M. Prasad, Principles & Practice of Management (10th edition), 978-93-91839-01-2, Sultan chand & Sons, 2023
- R3.** T Ramasamy, Principles of Management (Rev. ed. 2022), 978-93-5051-590-7, Himalaya Publishing House, 2019
- R4.** P C Tripathi, P N Reddy & Ashish Bajpai (7th edition), 978-9352605354, McGraw Hill Education, 2021
- R5.** Wehrich Heinz and Koontz Harold – “Management: A Global and Entrepreneurial Perspective” McGrawHill, 12 th Edition 2008

COURSE CODE & NAME: CMPCMA102T / MANAGERIAL ECONOMICS

Course Outcomes

1. Understand the basic concepts in Managerial Economics relevant to consumer, producer and wealth-owner, concepts, theories and laws of utility and indifference curve.
2. Recognize and apply the concepts and laws of demand and supply, theories and laws of utility and indifference curve etc.
3. Application of concept of production function and laws of production, various cost functions and curves.
4. Analysis of market structure and its working in relation to pricing decision.
5. Evaluation of Economic system and its performance in current scenario.

UNIT 1: INTRODUCTION OF MANAGERIAL ECONOMICS

Definition, Nature and Scope and its relevance in business decisions. Concept and Fundamental Principles of Managerial Economics: Incremental Principle, Marginal Principle, Opportunity Cost Principle, Discounting Principle, Concept of Time Perspective, Equi-Marginal Principle, Utility Analysis, Cardinal Utility and Ordinal Utility, production possibility frontier, Functional relationships

UNIT 2: DEMAND AND SUPPLY ANALYSIS

Demand Analysis: concept, Types of Demand, Determinants of demand, Demand Function, Demand Schedule, Demand curve, Law of Demand, Exceptions to the law of Demand, Movement along & Shifts in demand curve, Elasticity of Demand: Types (Price Elasticity, Income Elasticity, Arc Elasticity, Cross Elasticity and Advertising Elasticity) and its measurement (numerical Exercises). Uses of Elasticity of Demand for managerial decision making, Demand forecasting: meaning, significance and techniques (numerical Exercises), Demand Forecasting for a New Product Supply Analysis: concept, determinants of supply, Law of Supply, Supply Elasticity: Analysis and its uses for managerial decision making. Price of a Product under demand and supply forces, Indifference curve, Budget Line and Consumer Equilibrium

UNIT 3: PRODUCTION AND COST ANALYSIS

Production Analysis: Production concepts, Production function, Types of production function, Laws of production: Law of diminishing returns, Law of returns to scale. Iso-quant Curve, MRTS, Economies and Diseconomies of scale: Internal and external

Cost concept and analysis: Cost, Types of costs, and Cost output relationship in the short-run. Cost output relationship in the Long-run. Break-Even Analysis (numerical exercise); Estimation of Revenue: Average Revenue, Marginal Revenue, Total, Marginal and Average Revenue curve

UNIT 4: MARKET STRUCTURES

Concept & types-Perfect and Imperfect Market Structures, Perfect Competition: features, determination of price under perfect competition. Monopoly: Feature, pricing under monopoly, Price Discrimination. Monopolistic: Features, pricing under monopolistic competition, product differentiation. Oligopoly: Features, kinked demand Curve

UNIT 5: NATIONAL INCOME, BUSINESS CYCLES, INFLATION

National Income: Concept of National Income, GDP, GNP, NDP, NNP, Methods of Measuring National Income, Business Cycles: Definition Features and Phases of Business cycles

Inflation – Types of inflation, causes of Inflation, Measurement of inflation, methods of inflation control (Monetary and fiscal), and impact of inflation on economy.

Recommended Text Books:

T1: Dwivedi D.N. - Managerial Economics , (7th Edition), Vikas Publication, 2015

Recommended Reference Books:

- R1.** Maheshwari, Yogesh, Managerial Economics, (3rd ed.), PHI Learning Pvt. Ltd, 2019
- R2.** Maheshwari K. L., Varshney R.L. | Managerial Economics, (3rd ed.) Sultan Chand & Sons| 2014.
- R4.** Dr. D.M. Mithani. Managerial Economics – Theory and Applications,,(7th ed.). Himalaya Publications,2015

COURSE CODE & NAME: CMPCMA113T / ACCOUNTING FOR MANAGERS

Course Outcomes

1. Understand the fundamentals of financial accounting, the principles and concepts underlying them.
2. Understand the preparation of final accounts
3. Analyze and interpret the financial health of an organization through its financial statements and accounting information by doing comparison using different methods and applying relevant ratios.
4. Assess the flow of cash in the business through cash flow statement, portraying flow obtained from major business operative and non-operative activities.
5. Assess the situation of the business and to take managerial decisions using variance analysis and variable costing technique.

UNIT 1: FUNDAMENTALS OF ACCOUNTING:

Meaning and Scope of Accounting, Book Keeping and Accounting, Accounting Principles - Accounting Concepts & Conventions, Accounting Terminologies & Classifications, Basics of Accounting Standards and IFRS, Accounting Equation, Double Entry System of Accounting.

UNIT 2: MECHANICS OF ACCOUNTING:

Journalizing, Ledger Posting, Trial Balance, Preparation of Final Accounts - Manufacturing Account, Trading Account, Profit & Loss Account, Profit & Loss Appropriation Account, Company's Balance Sheet.

UNIT 3: ANALYSIS AND INTERPRETATION OF FINANCIAL STATEMENT – PART I:

Financial Statements - Income Statement and Position Statement, Comparative Methods - Common Size and Trend Analysis. Ratio Analyses – DuPont Analysis Chart, Profitability Ratios, Activity Ratios, Solvency Ratios.

UNIT 4: ANALYSIS AND INTERPRETATION OF FINANCIAL STATEMENT – PART II:

Preparation of Cash Flow Statement (As per IND AS 3), Cash flow from Operating, Investing, Financing Activities

UNIT 5: MANAGEMENT ACCOUNTING:

Classification of Cost, Cost-Volume-Profit Analysis, Marginal Costing, Absorption Costing, Profit Planning. Standard Costing: Variance Analysis: Materials and Labour Variances

Recommended Text Books:

T1: Maheshwari S.N & Maheshwari S K – A text book of Accounting for Management (Vikas, First Reprint of 2020)

Recommended Reference Books:

- R1:** Narayanswami - Financial Accounting: A Managerial Perspective (PHI, 5th Ed),2015
R2: Ambrish Gupta - Financial Accounting: A Managerial Perspective (Prentice Hall, 4th Edition),2018
R3: Ramchandran & Kakani - Financial Accounting for Management (TMH, 2nd Edition).2016
R4: Mukherjee - Financial Accounting for Management (TMH, 2nd Edition).2019

COURSE CODE & NAME: CMPCMA112T / ORGANIZATIONAL BEHAVIOUR

Course Outcome

1. Demonstrate the organizational behavior and how these behavior influences the overall effectiveness of an organization and its stakeholders,
2. Ability to explain the process of developing behavior of individuals.
3. Identify and evaluate learning process and its impact on growth of employees and organization.
4. Evaluate the importance of managing and motivating people towards the achievement of organizational goals
5. Developing cognizance of the Evaluate leadership styles to anticipate the consequences of each leadership style.
6. Predict the situations that cause conflict and their redressal. Assessing stresses and ways to deal with them.

UNIT 1: OVERVIEW OF ORGANIZATION BEHAVIOUR

Introduction: Meaning & Nature of O B, Need & Significance of OB, Discipline Contributing to OB, Foundation of Individual Behavior, Organizational Models.

UNIT 2: PERSONALITY & PERCEPTION

Personality: Meaning, Types, Importance, Determinants of Personality, Factors Affecting Personality. Perception: Concept & Meaning- Importance-Factors Influencing Perception.

UNIT 3: LEARNING & MOTIVATION

Learning: Meaning, Significance, Types of Learning Styles, Learning Process, Theories of Learning. Motivation: Definition & Concept of Motive & Motivation

UNIT 4: CONFLICT & STRESS

Conflict: Nature & Meaning - Types of Conflict, Levels of Conflict, Conflict Resolution. Stress: Meaning, Sources of Stress, Consequences & Coping Strategies of Stress

UNIT 5: LEADERSHIP & POWER

Leadership: Meaning- Significance, Leadership Styles. Power: Meaning- Concept, Types of Power, Importance.

Recommended Text Books:

T1: K.Aswhathappa, Organizational Behaviour, (edition), 9352021983, Himalaya Publishing House, 2016.

Recommended Reference Books:

R1: Pareek. U, Understanding Organizational Behaviour, (3rd edition), Delhi, India: Oxford University Press, 2014..

R2: Singh, K. Organisational Behaviour: Texts & Cases, (3rd edition), 9789325986695 India: Pearson, 2015.

R3: Newstorm, J. & David, K. (2007). Organizational Behavior, Human Behavior at Work. New Delhi: Tata McGrawHill Publication.

R4: Greenberg, J. & Baron, R.A. (2005). Behavior in Organizations. New Delhi: Pearson Education.

COURSE CODE & NAME: CMPCMA111T / BUSINESS LEGISLATION FOR MANAGERS

Course Outcomes

1. Understand the concepts of Indian Contract Act in a business and analyze the issues on of breach of contract.
2. Analyze the issues associated with the sale of goods and examine the problems of the consumers and to evaluate the methods to file a complaint before the consumer forum.
3. Evaluate the problems of the different companies and to analyze the cases on different legal issues related with the establishment of company.
4. Understand the concept of Negotiable Instruments Act and justify the decisions of the court if not suitable to the business concern and understand the provisions related to partnership business in India.
5. Analyze the concept and issues related to IT, IPR and copyright act and evaluate the remedies in case of infringement of IPR and copyright act.

UNIT 1: Law of Contract: General Principles

Nature of Contract, Essentials of a Valid Contract, Classification, Offer and Acceptance, Consideration, Competency, Free-Consent, Legality, Performability, Declared Void Agreements, Discharge, Breach and Remedies.

Law of Contract: Special Contracts

Meaning & Nature of Contracts: Quasi, Contingent, Bailment and Pledge, Indemnity and Guarantee, and Agency.

UNIT 2: Law of Sale of Goods:

Contract of Sale, Sale and Agreement to Sell, Conditions and Warranties, Transfer of Property, Delivery of Goods: Performance of Contract of Sale, Unpaid Seller, Remedial Measures for Breach of Contract, Auction Sale

Law of Consumer Protection:

Evolution of Consumer Protection Movement, Relevant Interpretations, Complainant and Grounds of Complaint, Limitation Period, Consumer Protection Adjudication and Redressal

UNIT 3: Law of Partnership:

Essentials of Partnership, Types of Partners, Rights and Duties of Partners, Relations with Third Party, Dissolution of Partnership Firms

Law of Limited Liability Partnership:

Nature and Incorporation, Partners and Their Relations, Closure of LLP

UNIT 4: Law of Negotiable Instruments:

Nature and Characteristics of Negotiable Instruments, Kinds of Negotiable Instruments, Parties to Negotiable Instruments, Negotiation, Presentment, Crossing and Bouncing, Discharge and Dishonor

Indian Banking Regulations:

Objects and Extents of the Banking Regulation Act 1949, Nationalization of Commercial Banks, Governance of Micro Financing, SARFAESI Act 2002

UNIT 5: Law of Information Technology:

Object and Scope of the Statute, Digital Signature and Electronic Signature, Electronic Governance, Electronic Records, Certifying Authorities

Law of Intellectual Properties:

Introduction to Intellectual Property Rights (IPR), Concept and Theories, Kinds of IPR, TRIPS and other Treaties (WIPO, WTO, GATTs), Objects and Extents of - the Patent Act 1970, Copyright Act, 1957, Trade Mark Act 1999 and Design Act 2000

Recommended Text Books:

T1. Kuchhal M.C. and Prakash D. Business legislation for management, (7th ed.) Vikas Publication.2020

Recommended Reference Books:

- R1.** Kapoor, N. D. (2024). Elements of Mercantile Law (39th Revised & Enlarged Ed.). New Delhi: Sultan Chand & Sons.
- R2.** Tulsian, P. C., & Tulsian, B. (2025). Business Law (3rd Ed.). New Delhi: McGraw Hill Education.
- R3.** Pathak, Akhileshwar. (2022). Legal Aspects of Business (8th Ed.; also available as 2025 e-text). New Delhi: McGraw Hill Education.
- R4.** Gulshan S.S. - Business Law Including Company Law. Excel Books.

COURSE CODE & NAME: CMPCMA106T / STATISTICS FOR MANAGERS

Course Outcomes

1. Understand and calculate the basic concepts central tendency and dispersion.
2. Recognize and apply the concepts of association between variables by correlation and regression.
3. Analysis and application of concept of the Time Series and Index number data in business decisions.
4. Understand, analysis, apply and create Hypothesis and its testing tools.
5. Understand, analysis, explain and apply the concept of Probability and Compare various Probability Distributions and tell about their properties in business decision making process.

UNIT 1: INTRODUCTION OF STATISTICS

Types of statistical methods, importance, scope and limitations, Data classification, tabulation and representation

Measures of Central Tendency: Arithmetic Mean, Geometric Mean, Harmonic Mean and Weighted Average, Median and Mode

Measures of Dispersion: Range, Average Deviations, Standard Deviation, Combined Standard Deviation and the Coefficient of Variation

UNIT 2: SKEWNESS, KURTOSIS, CORRELATION & REGRESSION ANALYSIS

Skewness, Moments and Kurtosis: Introduction, measures and applications.

Correlation Analysis: Rank Method & Karl Pearson's Coefficient of Correlation and Properties of Correlation.

Regression Analysis: Fitting of a Regression Line and Interpretation of Results, Properties of Regression

Coefficients and Relationship between Regression and Correlation.

UNIT 2: TIME SERIES ANALYSIS & INDEX NUMBERS

Concept, Additive and Multiplicative models, Components of time series, Trend analysis: Least Square method - Linear and Non-Linear equations, Applications in business decision-making.

Index Numbers: - Meaning, Types of index numbers, uses of index numbers, Construction of Price, Quantity and Volume indices: - Fixed base and Chain base methods.

UNIT 4: HYPOTHESIS TESTING

Null and Alternative Hypotheses; Type I and Type II errors; Testing of Hypothesis: Large Sample Tests, Small Sample test, (t, F, Z Test).

UNIT 5: PROBABILITY

Theory of Probability, Addition and Multiplication Law, Baye's Theorem

Probability Theoretical Distributions: Concept and application of Binomial; Poisson and Normal distributions.

Recommended Text Books:

T1. DN Elhance – Fundamental of statistics, 5th ed. Kitab Mahal, 2020

Recommended Reference Books:

R1. J K Sharma, Fundamentals of Business Statistics (2ed), Vikas Publishing, 2022

R2. Tulsian P.C. & Jhunjhunwala Bharat, Business Statistics, (2ed.), 2010

R3. S.C. Gupta (Author), Indra Gupta, Business Statistics, (2ed. revised), 2012

R4. Newbold, Carlson, Thorne – Statistics for Business and Economics, 6th ed., Pearson

R5. J.K. Tyagi, Business Statistics, Khanna Publishing House, Delhi.

COURSE CODE & NAME: CASCMA11T / COMPUTER APPLICATIONS FOR BUSINESS

Course Outcomes

1. Gain insight about various computer application and apply them in various business world.
2. To understand the in-depth knowledge of MS Word and MS Excel.
3. To apply various tools of E Commerce to achieve Competitive edge.

UNIT 1: INTRODUCTION TO COMPUTER& NETWORK

Hardware: Input devices - MICR, OMR, Bar code reader, digital camera etc. Output devices -VDU, printers, plotters, Operating systems: Functions of operating system, Classification of operating System. Computer Networks: Network types, Network topologies, Modes of Data communication, Internet: Netiquettes, Architecture & Functioning of Internet, Basic services over Internet like WWW, FTP, Telnet, IP addresses, ISPs, URL, Domain names, Web Browsers, Internet Protocols, Search engines, e-mail.

UNIT 2: MS –OFFICE

Microsoft word: Introduction, Working with Tables, Finding and replacing text, Mail merge, Macros, Menus and Tool Bar, Creating and Formatting Tables, Formatting of Letters, Quotation, Invoice, Purchase Order, Sales Order, Application of Mail Merge in Business, Designing the word document with Images and Graphs. **Microsoft Excel:** Introduction, Add, Subtract, Multiply, Divide in Excel, Excel Data Validation, Filters, Grouping, Logical functions (operators) and conditions, Visualizing data using charts, Types of Charts and Graphs, Financial Functions, Boolean, Logical Functions, financial reports.

Microsoft Power Point: Introduction to Power Point, Tool Animation, Templates, Designing Presentations, Slide Show Controls, printing presentations, Customizing Presentations, Auto Content Wizard, Creating Links in Slides, inserting charts, adding tables, Clipping, Slide animation, Inserting Pictures, Working with tables, Working with charts, Slide Effects.

UNIT 3: ELECTRONIC PAYMENT SYSTEM AND CYBER SECURITY

Introduction to EPS Introduction to EFT (Electronic Fund Transfer), Introduction to SET (Secure Electronic Transaction), Business requirement addressed by SET Introduction to Digital Signature and Digital Certificates, Stages of SET, Types of Payment System: Digital Cash, Electronic Cheque, Smart Card, Credit/Debit Card, e-Cash public Key Cryptography, Security Technology-Firewall and VPNs, Intrusion Detection, Access Control. Security Threats -Viruses, Worms, Trojan Horse, Bombs, Trapdoors, Spoofs, E- mail viruses, Macro viruses, Malicious Software, Interchange Introduction to EDI, EDI Architecture, Financial

Introduction, What is cyber security, Cyber Attacks, The Marketplace for vulnerabilities, Error 404, Digital Hacking in India. Introduction: Hacking, Types of Hacking/Hackers, Cybercrime, Types of cybercrime, Hacker Mind set, Threats, Concept of ethical hacking, Phases involved in hacking, Role of Ethical Hacking, Common Hacking Methodologies, Profiles of Hackers, Benefits of Ethical Hacking, Limitations of Ethical Hacking.

Recommended Text Books:

T1: Ravichandran, Computers Today, (2nd ed.). Khanna Publishing House, Delhi.2009

Recommended Reference Books:

R1: Ritendra Goel & D.N. Kakkar. Computer Applications in Management, (1st ed.) New Delhi: New Age International (P) Ltd.2004

R2: Dr. Sanjay Sharma A Textbook of Computer Network , (1st ed.) Kataria & Sons,2024.

R3: Bharihoke, D. (2009). Fundamentals of Information Technology. New Delhi: Excel Books

R4: Basandra, S. K. (2003). Computers Today. Greater Noida: Galgotia Publication Pvt. Ltd.

R5. Leon - Fundamentals of Information Technology, Vikas Publications.

**COURSE CODE & NAME: PTSPMMA11T / PROFESSIONAL
PROFICIENCY**

Course Outcomes

1. Gain insight about better representation of him / her in terms of communication skills and apply them in various business world.
2. To develop personality required for jobs
3. To inculcate employability skills and prepare for Industries /corporate and other Public and Private Sector jobs.

UNIT 1: HARD SKILLS

Grammar: Basics of Grammar, Sentence Structure and formation, Figure of Speech, Synonyms, Antonyms, paraphrasing, fill in the blanks

Reading and Comprehension: General Awareness, Unseen Passage

UNIT 2: SOFT SKILL

Listening Classes on: Audio lessons on News, Case Presentations

Speaking Lessons: JAM on General Topics, Introduction to Speaking.

UNIT 3: Assessment: Questions (Subjective and Objective) based on Hard Skills Taught in class given every week.

The aim should be to bring the instruction given in practice by making them write, speak and think along the lines of the instruction given. The practice sheet should be evaluated and necessary feedback must be given. Some exercise on compositional skills must be given so they develop a sense of writing and expressing themselves through the written word.

COURSE CODE & NAME: CMPIMA103T /Data Visualization for Managers

Prerequisite

Elementary knowledge of Python and Power BI required.

Course Objective:

Students will acquire knowledge on:

1. To understand data manipulation and visualization using Python libraries such as Pandas, Matplotlib, Seaborn, and Plotly.
2. To analyze data and build customized visualizations using Python to support business decision-making.
3. To enable learners to build interactive and well-formatted reports by using slicers, filters, and default themes.
4. To enable students to connect various data sources, build insightful worksheets and dashboards, and apply filters and simple calculations for exploratory analysis.
5. To apply each tool to a small-scale, practical scenario and emphasize storytelling, interactivity, and actionable insight generation.

Learning Outcome:

After completing the course, the students should be able to:

1. Use Python (Pandas, Matplotlib, Seaborn, Plotly) for data cleaning, exploration, and visual storytelling.
2. Perform data aggregation, statistical summaries, and create dashboards using Python-based libraries.
3. Learners will be able to import structured data from Excel or CSV files and develop basic visualizations such as bar charts and pie charts using Power BI Desktop
4. Learners will be able to design a simple interactive report or dashboard by incorporating slicers, filters, and layout formatting using Tableau.
5. Design a mini project using one or more tools with a focus on storytelling and data-driven recommendations.

Course Contents:

Unit	Contents
UNIT-I	<p>Data Manipulation and Visualization using Python</p> <ul style="list-style-type: none"> • Introduction to Python for Data Visualization: Jupyter Notebook, data types, control structures • Data analysis with Pandas: Series, DataFrames, data cleaning (missing values, duplicates) • Visualization with Matplotlib and Seaborn: Bar plots, histograms, scatter plots, heatmaps • Interactive visualizations using Plotly: Line charts, pie charts, dashboards
UNIT-II	<p>Applied Business Analytics using Python</p> <ul style="list-style-type: none"> • Exploratory Data Analysis (EDA): Descriptive statistics, correlation, outliers • Grouping and aggregating data: groupby, pivot tables • Time Series and Trend Analysis with Pandas • Business case examples: Customer segmentation, sales performance, marketing campaign analysis
UNIT-III	<p>Interactive Data Analysis & Visualization with Power BI</p> <ul style="list-style-type: none"> • Power BI Basics Recap & Data Modeling: Power BI interface and visual types. Importing multiple related tables (Excel or CSV). Creating and managing relationships (1: many, many:1). Role of the data model in report design. • Conditional Formatting and DAX: Applying conditional formatting to visuals (colors, data bars, icons). Intro to calculated columns. Creating basic measures using DAX. Difference between calculated columns and measures. KPI cards and visual-level calculations. • Hierarchies, Drill-through, and Interactivity: Creating and using hierarchies. Drill-down, drill-up, and drill-through functionality. Syncing slicers and filters across report pages. Buttons and page navigation basics • Dashboard Design & Layout Control: Applying and customizing Power BI themes. Build a 2–3-page interactive dashboard using the dataset. Include: slicers, hierarchies, KPIs, drill-through, formatted visuals
UNIT-IV	<p>Foundations of Visual Analytics with Tableau</p> <ul style="list-style-type: none"> • Introduction to Tableau & Connecting Data: Tableau Products: Desktop, Public, Online. Tableau interface walkthrough: data pane, shelves, cards, and canvas. Connecting to data: Excel, CSV. Data preview, metadata grid, and data types. Understanding Tableau’s dimension and measures.

	<ul style="list-style-type: none"> • Creating Worksheets with Drag-and-Drop: Building visualizations: bar charts, line charts, pie charts, maps. Using Marks card: color, size, label, detail, tooltip. Changing chart types and formatting options. • Filters, Sorting, and Calculated Fields: Adding filters to worksheets (dimension and measure filters). Quick filters (interactive filters on the dashboard). Sorting data visually and by field. Introduction to calculated fields. • Dashboard Design & Interactive Layout: Creating dashboards by combining worksheets. Adding interactivity: filter actions and highlight actions. Using containers, spacing, and layout best practices. Publishing and exporting dashboards (PDF, Tableau Public).
<p>UNIT-V</p>	<p>Choosing the Right Analytics Tool: Python, Power BI, and Tableau in Action</p> <ul style="list-style-type: none"> • Overview of the three tools: Python (Pandas, Matplotlib/Seaborn/Plotly), Power BI, and Tableau • Strengths and weaknesses by category: Data size & structure, Ease of use & learning curve, Visualization flexibility, Automation & repeatability, Business vs. technical use cases • Mini-Project: Choose one dataset, one business problem, and the most appropriate tool. (Ex- Perform Data Exploration using Python and Data Reporting using Power BI / Tableau

Text Books:

1. *Python for Data Analysis* by Wes McKinney
2. *Mastering Power BI* by Chandraish Sinha

Reference Books

1. *Storytelling with Data: A Data Visualization Guide for Business Professionals* by Cole Nussbaumer Knaflic
2. "Information Dashboard Design: Displaying Data for At-a-glance Monitoring" by Stephen Few.
3. "Introducing Microsoft Power BI" by Alberto Ferrari and Marco Russo
4. "Microsoft Power BI For Dummies" by Jack A. Hyman

