



मेडी-केप्स विश्वविद्यालय, इंदौर

Medi-Caps University, Indore

Faculty of Management Studies

Faculty of Management (MBA Program - Business Analytics) (Model Scheme) - 93 CREDITS

BATCH 2024-2026 (Updated) on Sept-2024

First Year Semester-ODD

Semester 1						
Sr. No.	Course Type	Course title	Hours per Week			Credits
			L	T	P	
1	MS5CO19	Management Concepts and Organizational Behavior	3	0	0	3
2	MS5CO07	Marketing Management	3	0	0	3
3	MS5CO27	Economics for Managers	3	0	0	3
4	MS5CO28	Financial Accounting for Managers	3	0	0	3
5	MS5CO41	Fundamentals to Business Analytics and Data Science	3	0	2	4
6	MS5NG02	Soft Skill- II	2	0	0	2
7	MS5SE12	IT for Data Analyst	0	0	2	1
8	MS5CO39	Data Management Essentials with "R"	0	0	2	1
9	MS5CO40	Business Statistics	3	0	2	4
			20	0	8	24
Semester II						
Sr. No.	Course Type	Course title	Hours per Week			Credits
			L	T	P	
1	MS5OE18	Open Elective 1 (Entrepreneurship)	3	0	0	3
2	MS5CO34	Research Methodology	3	1	0	4
3	MS5CO33	Financial Management and Corporate Finance	3	1	0	4
4	MS5CO36	Developing People & Organization	3	0	0	3
5	MS5NG01	Soft Skills- I	4	0	0	4
6	MS5PC04	Introduction to Python	0	0	2	1
7	MS5OE21	Open Elective 2 (Spreadsheet Modelling)	1	0	4	3
8	MS5CO37	Forecasting Technique for Analytics	3	0	2	4
<i>Students will undergo summer Internship for 6 to 8 weeks during summer break.</i>			20	2	8	26
Semester III						
Sr. No.	Course Type	Course title	Hours per Week			Credits
			L	T	P	
1	MS5CO38	Data Privacy and Ethics	3	0	0	3
2	MS5EB01	Data Driven Business Insights	2	0	2	3
3	MS5EB02	Data Mining Techniques Using R	2	0	2	3
4	MS5EB03	Data Warehousing and OLAP	3	0	2	4
5	MS5EB04	Big Data Analytics & Hadoop	2	0	2	3
6	MS5EB05	Introduction to ML and Blockchain Technology	2	0	2	3

7	MS5SS11	Industrial Training	0	2	0	2
8	MS5PC08	Minor Project	0	0	8	4
			14	2	18	25
Semester IV						
Sr. No.	Course Type	Course title	Hours per Week			Credits
			L	T	P	
1	MS5PC09	Internship / Industry Project	0	0	28	14
2	MS5SS09	Comprehensive Viva	0	4	0	4
			0	4	28	18



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Syllabus

Course Code	Course Name	Hours per Week			Total	
		L	T	P	Hours	Credit
MS5CO19	Management Concepts and Organizational Behavior	3	0	0	3	3

Unit-I Introduction to Management:

Basic Concepts, Definition of Management, Levels of management, Historical Development-Philosophies and theories of management: Classical Management Theories (Frederick Taylor, Henry Fayol) Behavioural Management Theories (Elton Mayo, Douglas McGregor) Modern Management Theories (Robert Kahn, Paul R. Lawrence) Functions of management, Roles of Manager.

Unit-II Functions of Management

Concept of Planning, Steps involved in Planning, Principles of Planning, Advantages and limitation of planning, Process of Management by Objective (MBO), Management by Exception (MBE).

Concept of Organizing, Types of Organizations.

Concept of Coordinating and Controlling: Coordination Need, Barriers in Coordination, Ways to achieve effective Coordination, Control Process, types of controlling, Requirement of effective control.

Unit- III Focus and Purpose of OB

Definition, need and importance of organizational behaviour, Nature and scope, Historical evaluation of OB , Challenges and opportunities for OB- OB Models and approaches.

Unit- IV Individual Behaviour

Concept of Personality, Personality Types, Learning – Types of learning, the learning process, Learning theories. Emotions - Concepts of Emotional Intelligence, Attitudes – Components, Formation and Measurement- Values, Perceptions – Importance, Factors influencing perception, Interpersonal perception, Impression Management, Motivation – importance and Types, Effects on work behaviour.

Unit- V Group Behaviour

Organization structure, Formation, Groups in organizations – Influence – Group dynamics – Emergence of informal leaders and working norms – Group decision making techniques – **Team building - Interpersonal** relations – Communication – Control.

Note: The cases of each unit are supplemented in the T.L.P

Text Books:

1. Prasad L.M, Principles & Practice of Management, Sultan Chand & Sons
2. Robins Stephen P., Organisational Behaviour, PHI Learning / Pearson Education
3. Luthans Fred, Organisational Behaviour, McGraw Hill

References Books:

1. Koontz Harold, O'Donnell and Welhrich Heinz, Essentials of Management, Tata McGraw Hill
2. Schermerhorn, Hunt and Osborn, Organisational behavior, John Wiley
3. Pareek Udai, Understanding Organisational Behaviour, Oxford Higher Education



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Syllabus

Course Code	Course Name	L	T	P	Credit
MS5CO07	Marketing Management	3	0	0	3

Course Content:

Unit I

Introduction: Nature, Scope and importance of Marketing; Core Marketing Concepts – Production concept, Product concept, Selling concept, Marketing concept, Holistic marketing concept; Difference between Marketing and Selling, Marketing- mix elements, The Marketing environment, Customer Satisfaction, Customer Delight, Customer value chain, Marketing Management Process, Marketing Myopia, Marketing Challenges.

Unit II

Segmentation, Targeting and Positioning: Levels and patterns of market segmentation, Market Segmentation Procedure, Needs for effective segmentation, Bases for segmenting a consumer market, Evaluating and selecting segments, Market Targeting, Positioning – Concept, Positioning strategy, and Differentiation Tools.

Unit III

Product, Branding and Pricing Decision:

(a) Product and Branding Decisions: Product Levels, Product Classification, Product Mix, Product Life Cycle – Concept and marketing strategies for different life cycle stages; Branding decisions; Brand Equity, Packaging and Labeling Decisions.

(b) Pricing Decisions: Factors in setting pricing policy, Pricing Strategies, Initiating and responding to price changes.

Unit IV

Distribution and Integrated Marketing Communication (IMC) Decisions:

(a) Distribution Decisions: Channels of distribution – Concept, importance and functions, Channel Levels, Channel Management Decisions, Introduction to Market Logistics and Market Logistic Decisions.

(b) Integrated Marketing Communication (IMC) Decisions: Communication Process, Steps in developing effective communication, Integrated Marketing Communication, Tools of IMC- Advertising, Public Relations, Direct Marketing, Personal Selling, Sales Promotion, Emerging tools of IMC- Sponsorships or Event Marketing, Social Media Marketing, Internet Marketing, Mobile Marketing.

Unit V

Dealing with Competition and Emerging Trends in Marketing: Analysing Competitors - Competitive Forces, Identifying Competitive Strategies, Industry concept of competition, Devising market strategies for Market Leaders, Market Challengers, Marketing Followers and Market Nichers; Customer Relationship Management, Green Marketing, Socially Responsible Marketing, Cause related Marketing, Rural Marketing.

Text Books:

1. Philip Kotler, Marketing Management, Pearson Education,
2. Rajan Saxena, Marketing Management, 2nd edition, New Delhi, Tata Mcgraw Hill Publishing Co Ltd.
3. V.S. Ramasamy and S.Namakumari, Marketing Management, Planning, Implementation and Control, New Delhi, Macmillan,

Reference Books:

1. Etzel, Michael J., Walker, Bruce J., Staton, William J., and Ajay Pandit, Marketing Concepts and Cases, Tata McGraw Hill (Special Indian Edition).
2. McCarthy, E. Jerome, Cannon, Joseph and William D. Perreault, Basic Marketing, McGraw-Hill Education.
3. Kazmi, Marketing Management Text and Cases, Excel Books.



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Course Code	Course Name	L	T	P	Credit
MS5CO27	Economics for Managers	3	0	0	3

Course Contents

Unit-I

Introduction to economics and Managerial Economics: Nature, Scope, significance of managerial economics, The circular flow of income two-sector, three sector and four-sector economy, National Income and related aggregates-GDP, NNP, NI etc.

Unit-II

Fundamental concepts: Ceteris Paribus, Incremental reasoning, Time perspective, Consumer surplus, Opportunity cost, Concept of Marginal and Equi-Marginal, Concept of Investment multiplier & acceleration. Theories of Firm: Managerial theories, Baumol, Marris, Behavioral theories– Simon, Cyret and March.

Unit-III

Consumer Behavior and Demand Analysis: Cardinal & Ordinal approach, Indifference curve-concept and analysis, Law of diminishing marginal utility, Concept of Demand and its determinants, Law of Demand, Concept and measurement of Elasticity of Demand, Types of elasticity of demand- price, income.

Unit-IV

Cost Curves Analysis and Production Function: Meaning and types of costs, Costs in Long Run and Short Run. Production Function: Law of Variable Proportions, Iso-Quants, Law of Returns to Scale, Marginal rate of technical Substitution, Law of Supply.

Unit-V

Market Structure and Pricing: Price determination under perfect competition, Monopolistic competition and monopoly, Non-pricing competition and Advertising, Price Discrimination under monopoly, Oligopoly market, kinked demand curve, Cartel formation, and Price leadership. Various pricing strategies and practices. Break even analysis, Meaning and Phases of Business Cycles, Role of govt. in the economy.

Text Books

1. Gupta, G.S. (2011). Managerial Economics, e-2, Tata McGraw Hills, New Delhi
2. Damodaran, Suma. (2006) Managerial economics, [Oxford](#), New Delhi
3. Truett, Lija J, (2012) Managerial Economics, 2012, Wiley, New Delhi.

Reference Books:

1. A. Koutsoyiannis. Modern Micro Economics, [MACMILLAN](#) (LONDON)
2. Dean Joel, (2009). “Managerial Economics”, e2, Prentice Hall Publication, New Delhi
3. Hal Varian (2010). Intermediate micro economics, e8, EWP, New Delhi



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Course Code	Course Name	Hours per Week			Total	
		L	T	P	Hrs.	Credits
MS5CO28	Financial Accounting for Managers	3	0	0	3	3

Curriculum:

Unit-I

Introduction: Introduction of Financial Accounting, meaning & definition, advantages and limitations of accounting, Basic terms used in accounting, Types of Accounting, Accounting Concepts & Conventions, Classification of account, Rules of Debit and Credit, Journalizing, Ledger–Posting from Journal to respective ledger accounts., Introduction of Accounting Standards & IFRS

Unit-II

Trial balance & Final Account: Meaning of Trial Balance, Objectives, and Methods of Preparation of Trial Balance. Final Accounts: Meaning, Importance, uses and preparation of Trading Account, Profit & Loss Account and Balance Sheet with Basic adjustment related to depreciation, closing stock, prepaid & outstanding expenses, accrued income, bad debts, Reserve, provision for bad debts etc.

Unit-III

Depreciation: Meaning of Depreciation, Causes, Objects of providing for Depreciation, Methods of providing depreciation, Straight line method, Diminishing balance method, disposal of assets.

Unit-IV

Orientation to Cost Accounting: Objectives and importance of Cost Accounting Cost Concepts Cost Centre Cost Unit, Classification of Costs, A brief Introduction of Methods of Costing (Theory Only), Cost-Volume-Profit analysis. Cost control & Cost reduction.

Unit-V

Introduction to Management Accounting & Financial Statement Analysis: Objectives and importance of Management Accounting, Financial statements: Meaning, & types, Tools of Financial statement analysis (Theory only), Analyzing financial statement through basic Ratio analysis, liquidity ratio, Activity ratio & Profitability ratio.

Case Studies: Nil

Optional

Project: Nil

Optional

Text Books

1. Khan M.Y., Jain P.K., Management Accounting, Tata McGraw Hill,
2. Banerjee Bhabatosh, Cost Accounting –Theory and Practice, PHI
3. Jain Kapil, Somani Rashmi, Accounting for Managers, Dreamtech Publications

Reference Books

1. Tulsian P.C, Financial Accounting, Tata McGraw Hill
2. Charles T., Horngren, Introduction to Financial Accounting, Pearson Education
3. Lal Jawahar, Financial Accounting, S. Chand & Company



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Syllabus

Course Code	Course Name	L	T	P	Credit
MS5CO41	Fundamentals to Business Analytics and Data Science	3	0	2	4

Course Learning Objectives

- CLO 01** To develop foundational problem-solving skills and understand structured approaches to framing and analyzing business problems.
- CLO 02** To equip students with the tools and frameworks necessary to conduct effective interviews, frame hypotheses, and understand business models.
- CLO 03** To enable students to derive insights from data patterns and effectively communicate findings through storytelling and visualizations
- CLO 04** To introduce students to the role of data in decision-making, focusing on data types, visualization techniques, and exploratory data analysis.
- CLO 05** To familiarize students with the basics of machine learning and its application in solving business problems through real-world case studies.

Prerequisites: NIL

Co-requisites: NIL

Course Contents

Unit 1

Introduction to Business Problems : Problem-Solving Skills, Advantages of Problem-Solving, Split-Brain Theory, How Right-Brained Individuals Solve Problems, Frame the Problem with Precision, Facts and Opinions, Prioritising Key Issues, Framing the Problem Using the S.M.A.R.T Framework, Framing the Problem – Hospital Discharge Process, Building a Hypothesis, Validating the Hypothesis, MECE Approach, MECE Considerations Root Cause of Issues Analysing the Problem – Hospital Discharge Process, Analysing Possible Solutions Prioritising Options, Considering Implications, Analysing Solutions – Hospital Discharge Process, Implementing the Solutions Proof of Concept approach Implementing Solutions – Hospital Discharge Process

Unit 2

Understanding Problems & Formulating Hypotheses : Interviewing: Preparation Interviewing: Do's and Don'ts Interviewing: Frameworks, Demonstration: 5W and 5 WHYs Demonstration: SPIN Framework Interviewing: Things to Remember Business Model Canvas Demonstration: Business Model Canvas Issue Tree Framework Specialized Frameworks 4Ps

Unit 3

Analysing Patterns and Storytelling : Five Patterns of Insights Analysis Approach: Deriving New Columns Analysis Approach: Summarising Rows, Insight Overview Demonstration Pyramid Principle, Logical Flows and Usage of Words, Session Summary, Graded Questions Session Overview, Importance of Visualisation, Visualisation of Quantitative Data Visualisation of Qualitative Variables, Visual Design Principles and Storyboarding, Demonstration

Unit 4

Foundations of Business Analytics and Data Science : Understanding the role of data in decision-making; Introduction to data types, sources, and formats; Exploring basic statistical concepts and measures; Overview of data visualization techniques; Introduction to data cleaning and preprocessing. Exploratory Data Analysis (EDA) techniques.

Unit 5

Introduction to Machine Learning and Business Applications : Fundamentals of machine learning algorithms; Supervised vs. unsupervised learning; Feature engineering and selection; Introduction to classification and clustering techniques; Case studies: Applying machine learning to business problems.

Course Outcomes

1. **Unit 1: Introduction to Business Problems**
 - **Outcome:** Students will be able to apply structured problem-solving techniques to identify, analyze, and prioritize business issues, and implement practical solutions.
2. **Unit 2: Understanding Problems & Formulating Hypotheses**
 - **Outcome:** Students will demonstrate the ability to frame business problems using various frameworks, conduct interviews, and formulate hypotheses that guide problem analysis.
3. **Unit 3: Analyzing Patterns and Storytelling**
 - **Outcome:** Students will be proficient in identifying patterns in data, deriving meaningful insights, and presenting those insights through compelling storytelling and visualizations.
4. **Unit 4: Foundations of Business Analytics and Data Science**
 - **Outcome:** Students will be able to apply basic statistical concepts and data visualization techniques to analyze data and support business decision-making.
5. **Unit 5: Introduction to Machine Learning and Business Applications**
 - **Outcome:** Students will gain the ability to apply basic machine learning algorithms to business scenarios, understanding how to use data to drive strategic decisions.

Text Books

1. Business Analysis and Problem Solving Techniques: Susan Bailey, Sage Publications, 2nd Edition (2020)

2. The McKinsey Mind: Ethan Rasiel and Paul Friga, McGraw Hill Education, 1st Edition (2002)
3. Business Analytics: The Science of Data-Driven Decision Making: U Dinesh Kumar, Wiley India, 1st Edition (2017)

Reference Books

1. Thinking, Fast and Slow: Daniel Kahneman, Penguin Books, 1st Edition (2011)
2. "The Pyramid Principle: Logic in Writing and Thinking: Barbara Minto, Pearson Education, 3rd Edition (2010)
3. "Problem Solving 101: Ken Watanabe, RHUS, 1st Edition (2009)

Web reads

1. **Problem-Solving Techniques**
 - [MindTools: Problem Solving Techniques](#)
 - This article provides an overview of various problem-solving techniques that are applicable in business contexts.
2. **Framing the Problem**
 - [Harvard Business Review: Are You Solving the Right Problem?](#)
 - This resource explains how to frame business problems correctly to find effective solutions.
3. **Root Cause Analysis**
 - [Six Sigma: Root Cause Analysis](#)
 - This article delves into the root cause analysis process, which is essential for identifying underlying business issues.
4. **Business Model Canvas**
 - [Strategyzer: Business Model Canvas Explained](#)
 - This resource provides detailed insights into the Business Model Canvas framework, which helps in formulating hypotheses and structuring business ideas.
5. **Storytelling with Data**
 - [Storytelling with Data Blog](#)
 - A blog that offers tips, techniques, and examples for effective data storytelling.

Lab List

1. **Framing the Problem Using the S.M.A.R.T Framework**
 - **Task:** Select a business problem related to customer service and frame it using the S.M.A.R.T framework.
 - **Software:** Microsoft Word
2. **Root Cause Analysis Using 5 Whys**
 - **Task:** Identify a recurring issue in a business process (e.g., delayed deliveries) and perform a root cause analysis using the 5 Whys technique.
 - **Software:** Microsoft Word
3. **Building and Validating Hypotheses**
 - **Task:** Develop a hypothesis for improving sales in a retail business. Validate this hypothesis using interview data from hypothetical stakeholders.

- **Software:** Microsoft Excel, Microsoft Word
- 4. **Creating an Issue Tree Framework**
 - **Task:** For a business challenge (e.g., declining market share), create an issue tree to identify all potential root causes.
 - **Software:** Microsoft PowerPoint, Lucidchart (online tool)
- 5. **Business Model Canvas**
 - **Task:** Develop a Business Model Canvas for a startup idea in the e-commerce sector.
 - **Software:** Microsoft PowerPoint, Canva (online tool)
- 6. **Visualizing Data to Identify Patterns**
 - **Task:** Using a dataset related to customer demographics, create visualizations to identify patterns and insights.
 - **Software:** Microsoft Excel
- 7. **Pyramid Principle in Storytelling**
 - **Task:** Create a business presentation using the Pyramid Principle to propose a new marketing strategy.
 - **Software:** Microsoft PowerPoint
- 8. **Root Cause Analysis: Hospital Discharge Process**
 - **Task:** Given data on a hospital discharge process, analyze the root cause of delays and propose solutions.
 - **Software:** Microsoft Excel, Microsoft Word
- 9. **Creating a Dashboard for Business Decision-Making**
 - **Task:** Create an interactive dashboard in Excel that visualizes key performance indicators (KPIs) for a retail business.
 - **Software:** Microsoft Excel

Software required for practical

- **Microsoft Word:** For documenting and formatting text-based analyses and reports.
- **Microsoft Excel:** For data analysis, visualization, and creating dashboards.
- **Microsoft PowerPoint:** For developing presentations, visual frameworks, and storytelling.
- **Canva/Lucidchart (Optional):** For designing visually appealing frameworks and diagrams (online tools).



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Syllabus

Course Code	Course Name	L	T	P	Credit
MS5SE11	IT for Data Analyst	0	0	2	1

Course Learning Objectives

- CLO 01** To enable students to efficiently use Excel for basic data manipulation, formatting, and analysis by understanding its core functions and tools
- CLO 02** To deepen students' knowledge of advanced Excel features and techniques, including complex functions, data analysis tools, and VBA for automation
- CLO 03** To equip students with the skills to perform optimization tasks using Excel Solver, including formulating objective functions, constraints, and analyzing optimization results.
- CLO 04** To provide students with the knowledge to apply financial functions in Excel for time value of money calculations, capital budgeting, and other financial analyses.
- CLO 05** To develop students' ability to create and format professional documents in MS Word and compelling presentations in MS PowerPoint, including advanced features and multimedia integration.

Prerequisites: NIL

Co-requisites: NIL

Course Contents

Unit 1

Excel Basics : Understanding the Excel Interface, Slicing and dicing data - Sort and filter Report making I: Basic formatting Report making II: Conditional formatting, Report making III: Advanced formatting Printing and page layout, Passwords and naming files, Delimited files, Discovering shortcuts Introduction to formulae, Complex functions Call referencing and text functions, Logical formulae, Anand's anecdotes, Creating and formatting charts, Types of charts, Creating a pivot table, Analysing data in a pivot table, Filtering data in a pivot table, Anand's Anecdotes - Pivot Tables, VLOOKUP - Linking Data from multiple files & tables, Anand's Anecdotes - VLOOKUP, Common Errors in Excel, Google Forms Data in Excel, Online Spreadsheets with Excel

Unit 2

Advanced Excel : Advanced Excel , Sort and Filter, Text Functions, Statistical Functions, Logical Functions, Conditional formatting, LOOKUP functions INDEX and MATCH, Pivot Tables What-If Analysis, Dashboards, Recording Macros Advanced Visualisations, Data Analysis ToolPak - Regression in Excel, Introduction to VBA, Variables, Objects and Functions,

Unit 3

Optimisation using Excel : Optimisation using Excel, Business Relevance of Optimisation, Objective Function and Decision Variable, Constraints in Optimisation, Sensitivity Analysis, Objective Function and Decision Variables in Excel Constraints in Excel, Optimisation using Solver Visualising the Results, Airline Optimisation: Sensitivity Analysis, Airline Optimisation: Connecting Flight

Unit 4

Financial Functions : Financial Functions, Time Value of Money, Capital Budgeting, Depreciation Simple Interest, Present Value and Future Value, NPV and IRR, Annuity

Unit 5

MS Word and MS PowerPoint : MS Word and MS PowerPoint, Advanced Word Processing using MS Word: Ribbons and Tabs, Formatting Text and Documents, Working with Headers, Footers,, Footnotes, and Endnotes., Working with Citations and Bibliography. Insertion of Tables, Pictures, Clip Arts, Shapes, Smart Arts Page Numbers, Page Margins, Page Orientation, Columns, Ruler, Watermarks, Sorting Mail Merge Macros in MS Word, Comments and Print Options , Animations and Slide Transition Audio-video in PowerPoint Advanced Presentation- PowerPoint: Ribbons, Tabs and Creating Presentations, Working with Text, Graphics, Pictures, Design Themes, Presentation Views, Record Narration, Rehearse Timing and Print Options. IT Etiquettes: Hardware Etiquettes, Software Etiquettes, Websites Etiquettes, E-mail Etiquettes, Social Media Etiquettes.

Course Outcomes

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

CO1 : create and format Excel reports, use basic functions and formulas, and generate pivot tables to summarize and analyze data.

CO2 : proficient in using advanced Excel functions, performing data analysis with tools like Data Analysis ToolPak, and creating automated solutions with VBA.

CO3: set up and solve optimization problems using Excel Solver, interpret the results, and apply optimization techniques to real-world business scenarios.

CO4: use Excel to perform financial calculations such as NPV, IRR, and depreciation, and apply these functions to evaluate investment opportunities and financial decisions.

CO5: be proficient in using MS Word for advanced document formatting and mail merges, and MS PowerPoint for creating interactive and multimedia-enhanced presentations.

Text Books

1. **Microsoft Excel 2019 Data Analysis and Business Modeling** : Wayne L. Winston, Microsoft Press, 2019
2. **"Microsoft Word 2019 Step by Step"** : Joan Lambert, Microsoft Press, 2019
3. **"Microsoft PowerPoint 2019 Step by Step"**: Joan Lambert, Microsoft Press, 2019

Reference Books

1. **"Excel 2019 Power Programming with VBA"**: Michael Alexander, Dick Kusleika, Wiley, 2019
2. **"Microsoft Office 2019 All-in-One for Dummies"** : Peter Weverka, Wiley, 2019

Web reads

Excel

1. **Microsoft Excel Official Documentation**
[Microsoft Excel Help](#)
Comprehensive documentation and tutorials from Microsoft.
2. **Excel Easy - Tutorials and Examples**
[Excel Easy](#)
A site offering free tutorials on Excel basics, formulas, and functions.
3. **Excel Jet - Excel Shortcuts and Formulas**
[Excel Jet](#)
A resource for learning Excel shortcuts, formulas, and functions.

MS Word

1. **Microsoft Word Official Documentation**
[Microsoft Word Help](#)
Official Microsoft support for Word, including guides and tutorials.
2. **WordTips - Tips and Tutorials for MS Word**
[WordTips](#)
Offers a collection of tips and techniques for Microsoft Word.
3. **Microsoft Word Training - LinkedIn Learning**
[LinkedIn Learning Word Training](#)
Professional courses and training in Microsoft Word.

MS PowerPoint

1. **Microsoft PowerPoint Official Documentation**
[Microsoft PowerPoint Help](#)
Official support and tutorials from Microsoft for PowerPoint.
2. **Presentation Magazine - PowerPoint Tutorials**
[Presentation Magazine](#)
Offers free PowerPoint templates and tutorials.

Lab List

Unit 1: Excel Basics

1. **Create a Financial Report:**
 - Create a report with basic formatting, including bold, italics, and different font sizes. Apply conditional formatting to highlight cells based on specific criteria.
 - **Software Required:** Microsoft Excel
2. **Build a Pivot Table:**
 - Import a dataset (e.g., sales data) and create a pivot table to analyze the data. Include filtering, sorting, and summarizing data using different pivot table features.
 - **Software Required:** Microsoft Excel
3. **Use VLOOKUP to Link Data:**
 - Create two separate tables (e.g., employee details and department details). Use VLOOKUP to link and pull information from one table to another.
 - **Software Required:** Microsoft Excel
4. **Create and Customize Charts:**
 - Create various types of charts (e.g., bar chart, line chart, pie chart) using sample data. Customize chart elements like titles, legends, and data labels.
 - **Software Required:** Microsoft Excel

Unit 2: Advanced Excel

5. **Perform What-If Analysis:**
 - Use Excel's What-If Analysis tools (e.g., Goal Seek, Data Tables) to explore different scenarios and their impact on financial projections.
 - **Software Required:** Microsoft Excel
6. **Design a Dashboard:**
 - Create an interactive dashboard with slicers and charts to visualize data trends and key metrics from a sample dataset.
 - **Software Required:** Microsoft Excel
7. **Write and Use Macros:**
 - Record and write simple macros to automate repetitive tasks. Save and run the macros within your Excel workbook.
 - **Software Required:** Microsoft Excel
8. **Use INDEX and MATCH Functions:**
 - Utilize INDEX and MATCH functions to retrieve data from complex datasets. Compare these functions with VLOOKUP and demonstrate their advantages.
 - **Software Required:** Microsoft Excel

Unit 3: Optimization using Excel

9. **Optimize Business Decisions Using Solver:**
 - Use the Solver add-in to optimize a business problem, such as maximizing profit or minimizing costs, given certain constraints. Set up and solve the optimization problem.
 - **Software Required:** Microsoft Excel

10. Conduct Sensitivity Analysis:

- Perform sensitivity analysis on a model by varying key inputs and analyzing the impact on the output. Visualize the results with appropriate charts.
- **Software Required:** Microsoft Excel

Unit 4: Financial Functions

Time Value of Money Calculations

- **Objective:** Calculate the future value and present value of a series of cash flows.
- **Task:** Use Excel functions such as **FV**, **PV**, **PMT**, and **RATE** to solve problems involving annuities and lump-sum investments. For example, calculate the future value of a monthly savings plan with an annual interest rate.

Capital Budgeting Analysis

- **Objective:** Evaluate investment projects using Net Present Value (NPV) and Internal Rate of Return (IRR).
- **Task:** Create a spreadsheet to analyze a proposed investment project by calculating NPV and IRR based on projected cash flows. Use Excel functions **NPV** and **IRR**.

Unit 5: MS Word and MS PowerPoint

4. MS Word: Working with Citations and Bibliography

- Create a research document that includes citations and a bibliography using the built-in citation and referencing tools in MS Word. Ensure correct formatting according to a chosen style (e.g., APA, MLA).
- **Software Required:** Microsoft Word

5. MS PowerPoint: Creating a Presentation

- Design a PowerPoint presentation with a professional theme. Include slides with text, images, charts, and SmartArt. Apply slide transitions and animations to enhance the presentation.
- **Software Required:** Microsoft PowerPoint

6. MS Word: Inserting and Formatting Graphics

- Insert various types of graphics (e.g., charts, shapes, SmartArt) into a Word document. Format these graphics and arrange them with text using alignment and wrapping options.
- **Software Required:** Microsoft Word

7. MS PowerPoint: Creating Interactive Presentations

- Develop an interactive presentation that includes hyperlinks, action buttons, and custom navigation to create a non-linear presentation flow.
- **Software Required:** Microsoft PowerPoint

Software required for practical

- **Microsoft Excel:** Required for all tasks involving data analysis, visualization, and reporting. Ensure you have the latest version for full functionality.

- **Google Sheets (optional):** Can be used as an alternative to Excel for some tasks, especially for online collaboration.
- **Microsoft Word:** For advanced document formatting, mail merge, macros, and citations.
- **Microsoft PowerPoint:** For creating and enhancing presentations with multimedia elements, transitions, and animations.



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Syllabus

Course Code	Course Name	L	T	P	Credit
MS5CO39	Data Management Essentials With R	0	0	2	1

Course Learning Objectives

- CLO 01** To introduce students to the R programming environment, including installation, basic operations, and the use of R as a tool for data manipulation
- CLO 02** To provide an understanding of working with matrices and arrays in R, focusing on their creation, manipulation, and arithmetic operations
- CLO 03** To explore the use of lists and data frames in R for organizing and managing complex data structures
- CLO 04** To develop skills in using control statements, writing functions, and managing strings in R for effective data processing and manipulation
- CLO 05** To introduce advanced control structures and flow control mechanisms in R, enabling more sophisticated data manipulation and analysis.

Course Contents

Unit 1

Introduction to R : Concept of R, Installing R, IDE of R, Getting help from R, Mathematical Operators and Vectors, Assigning Variables, Special Numbers, Logical Vectors, Classes, Different types of numbers, Changing classes, Examining Variables, The workplace.

Unit 2

Matrices and Arrays : Vectors – Sequences, Lengths, Names, Indexing Vectors, Vector Recycling and Repetition, Matrices and Arrays – Creating Arrays and Matrices, Rows, Columns, Dimensions, Indexing Arrays, Combining Matrices, Array Arithmetic

Unit 3

Lists and Data Frames : Lists - Creating lists, Automatic and recursive variables, List dimensions and arithmetic, indexing lists, Conversion between vectors and lists, Combining lists, NULL, Pair

lists - Data Frames, Creating Data Frames, Indexing Data Frames, Basic Data Frame Manipulation

Unit 4

Control statements, Functions and Strings : Control statements - Arithmetic and Boolean operators and values - Default values for arguments Returning Boolean values - functions are objects - Environment and Scope issues Writing Upstairs - Recursion - Replacement functions - Tools for composing function code - Math and Simulations in R
Environments, Functions - Creating and Calling Functions, Passing functions, variable scope, Strings - Constructing and printing strings, Formatting numbers, Special characters, Changing case, Extracting Substrings, Splitting Strings, File paths, Creating, factor levels, ordered factors, conversion of variables

Unit 5

Control Structures in R : Flow Controls: Conditional - if and else, Vectorized if, Multiple Selection, Loops - repeat loops, while loops, for loops, Advanced looping – replication, looping over lists, looping over arrays, Multiple - Input Apply, Instant vectorization, Split-Apply-Combine.

Course Outcomes

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

CO1: install and configure R, perform basic operations using R, and utilize vectors and variables for elementary data management tasks.

CO2: gain proficiency in creating and manipulating matrices and arrays, including indexing and performing arithmetic operations on these data structures.

CO3: create and manipulate lists and data frames, convert between different data structures, and perform basic data management operations.

CO4: implement control structures, create and utilize functions, and manipulate strings, enhancing their ability to automate and streamline data processing tasks in R.

CO5: apply advanced control structures, including conditional statements and loops, to manage complex data analysis workflows in R.

Text Books

1. "R for Data Science" : Hadley Wickham, Garrett Golemund, Shroff Publishers & Distributors Pvt. Ltd., 1st Edition (2017)
2. "The Art of R Programming: A Tour of Statistical Software Design" : Norman Matloff, No Starch Press; Distributed by Penguin Random House India, 1st Edition (2011)
3. "Hands-On Programming with R": Garrett Golemund, Shroff Publishers & Distributors Pvt. Ltd., 1st Edition (2014)

Reference Books

1. "Advanced R": Hadley Wickham, Shroff Publishers & Distributors Pvt. Ltd., 2nd Edition (2019)

2. "R in Action: Data Analysis and Graphics with R" : Robert I. Kabacoff, Dreamtech Press (Manning), 2nd Edition (2015)
3. "R Cookbook: Proven Recipes for Data Analysis, Statistics, and Graphics" : Paul Teetor, Shroff Publishers & Distributors Pvt. Ltd., 2nd Edition (2019)

Web reads

- The R Project for Statistical Computing
 - [Official R Project Website](#)
 - The official site for R, including downloads, documentation, and other resources.
- R-bloggers
 - [R-bloggers](#)
 - A blog aggregator that collects content from various blogs about R, including tutorials, tips, and insights..
- Swirl: Learn R in R
 - [Swirl - Learn R, in R](#)
 - An R package that teaches you R directly from the console, covering data management and other fundamentals.
- Tidyverse
 - [Tidyverse Documentation](#)
 - Documentation and resources related to the Tidyverse, a collection of R packages for data science.

Lab List

Unit 1: Introduction to R

1. Basic Operations in R
 - Write a script to perform basic arithmetic operations (addition, subtraction, multiplication, division) and store the results in variables. Display the results and their data types.
 - *Software Required:* R, RStudio
2. Working with Vectors
 - Create a vector of random numbers and perform operations like sorting, indexing, and finding the mean, median, and standard deviation of the vector.
 - *Software Required:* R, RStudio

Unit 2: Matrices and Arrays

3. Creating and Manipulating Matrices

- Create a 3x3 matrix with numerical values. Perform operations such as matrix addition, multiplication, and transposition. Extract specific rows, columns, and elements.
 - *Software Required:* R, RStudio
4. Array Operations
 - Create a 3-dimensional array and perform basic arithmetic operations. Extract and manipulate specific elements, rows, or columns within the array.
 - *Software Required:* R, RStudio

Unit 3: Lists and Data Frames

5. Working with Lists

- Create a list containing different data types (numeric, character, logical). Perform operations like indexing, adding elements, and removing elements from the list.
- *Software Required:* R, RStudio

6. Data Frame Manipulation

- Create a data frame from scratch using vectors. Perform operations like adding new rows, columns, filtering data based on conditions, and summarizing data.
- *Software Required:* R, RStudio

Unit 4: Control Statements, Functions, and Strings

7. Conditional Statements

- Write a script that takes user input and uses conditional statements to classify the input (e.g., even/odd, positive/negative). Display appropriate messages based on the input.
- *Software Required:* R, RStudio

8. Writing Custom Functions

- Create a custom function in R that calculates the factorial of a given number. Test your function with different inputs.
- *Software Required:* R, RStudio

Unit 5: Control Structures in R

9. Looping Constructs

- Write a script to create a multiplication table for numbers 1 to 10 using loops. Store the results in a matrix and display it.
- *Software Required:* R, RStudio

10. Vectorized Operations

- Compare the performance of a loop-based approach vs. a vectorized approach to summing the elements of a large numeric vector.
- *Software Required:* R, RStudio

Software required for practical

- R: The primary language and environment for statistical computing and graphics.
- RStudio: An integrated development environment (IDE) for R, providing a user-friendly interface for coding, visualization, and data management.



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Medi-Caps University, Indore

Syllabus

Course Code	Course Name	L	T	P	Credit
MS5CO40	Business Statistics	3	0	2	4

Course Learning Objectives

- CLO 01** To introduce the foundational concepts of probability, including permutations, combinations, types of events, and probability distributions, and to develop the ability to calculate and interpret various probability metrics essential for statistical analysis.
- CLO 02** To understand the Central Limit Theorem (CLT) and its implications for sampling distributions, and to explore various sampling methods and their applications in different contexts, including market research and quality control
- CLO 03** To develop a comprehensive understanding of hypothesis testing, including the formulation of hypotheses, decision-making processes, and the application of statistical tests such as ANOVA and A/B testing in real-world industry scenarios.
- CLO 04** To gain knowledge of different measures of dispersion, such as range, quartile deviation, mean absolute deviation, and standard deviation, and to apply these concepts to various data types to analyze variability in datasets.
- CLO 05** To master the computation and interpretation of central tendency measures (mean, median, mode) for different data types, and to understand and apply correlation techniques, including Spearman's Rank correlation and Karl Pearson's coefficient of correlation, to analyze relationships between variables.

Prerequisites: NIL

Co-requisites: NIL

Course Contents

Unit 1

Fundamentals of Probability and Probability Distributions : Permutations Combinations
Probability – Definition and Properties Types of Events Rules of Probability - Addition Rules of
Probability - Multiplication Joint and Conditional Probability Bayes Theorem Random

Variables Probability Distributions Expected Value Probability Without Experiment, Binomial Distribution Binomial Distribution (Examples) Cumulative Probability Comprehension - Expected Value Probability Density Functions Normal Distribution Standard Normal Distribution

Unit 2

Central Limit Theorem and Sampling Methods : Population and Samples Sampling Distributions Properties of Sampling Distributions Central Limit Theorem Estimating Mean Using CLT Estimating Mean using CLT: Excel Demo Types of Sampling Methods Uses of Sampling in Market Research Uses of Sampling in Marketing Campaigns Uses of Sampling in Pilot Testing Uses of Sampling in Quality Control Standardised Normal Distribution and Z-Score Sampling Methods Sampling and Estimation

Unit 3

Concepts of Hypothesis Testing and Industry Demonstrations : Understanding Hypothesis Testing Null and Alternate Hypotheses Making a Decision Critical Value Method Critical Value Method - Examples P-Value Method P-Value Method - Examples Types of Errors One-Way ANOVA Demonstration using Excel Demonstration using Python Two-Way ANOVA Business Understanding Problem Statement Hypothesis Formulation Choosing the Representative Sample Computing the Test Statistic Finding the Critical Region Making the Decision Using P-Value Approach Changing the Hypothesis T-Distribution Two-Sample Mean Test Two-Sample Proportion Test A/B Testing Demonstration Industry Relevance Hypothesis Testing in Python Distributions and Sampling Methods Inferential Statistics Hypothesis Testing A/B Testing Chi-squared Test

Unit 4

Measures of Dispersion / Variability : Introduction, Types of dispersion measures - concept of absolute and relative measures Qualities of good measure of dispersion, Range - Concept and simple problems, Coefficient of Range, Quartile deviation-computation of QD and its coefficient for raw, discrete and continuous data. Mean Absolute Deviation about mean, median & mode Standard Deviation - Computation of SD and its coefficient for raw, discrete and continuous data, simple applications, Combined SD of two groups.

Unit 5

Analysis of Uni-Variate Data and Bi-Variate Data Correlation : Measures of Central Location, Introduction, Different types of Central Tendency Measures, Qualities of good measure of Central Tendency. Arithmetic Mean - Computation using Direct shortcut and step-deviation method, problems on missing frequencies (one or two), properties of AM, problems on combined Mean, corrected Mean, Weighted AM - Simple problems of Weighted AM. Median-computation for raw data, discrete and continuous data, problems on missing frequencies. Mode – computation of mode for raw data, discrete and continuous data - for Uni-modal distribution, problems on Grouping and analysis table. Correlation -Spearman's Rank correlation, Karl Pearson's co efficient of correlation.

Course Outcomes

The Student will be able to:

- Calculate probabilities for different types of events, understand and apply various probability distributions (such as binomial and normal distributions), and compute expected values for decision-making under uncertainty.
- Apply the Central Limit Theorem to estimate population parameters from sample data, choose appropriate sampling methods for different research scenarios, and evaluate the accuracy of their estimates.
- Formulate null and alternate hypotheses, perform hypothesis tests using methods such as the critical value approach and p-value approach, and effectively interpret the results in the context of business problems.
- Compute and interpret various measures of dispersion, including standard deviation and quartile deviation, and apply these measures to assess the spread and consistency of data in different datasets.
- Compute measures of central tendency for uni-variate data, analyze bi-variate data using correlation techniques, and interpret the strength and direction of relationships between variables in various contexts.

Text Books

1. Probability and Statistics for Engineers and Scientists: Ronald E. Walpole, Raymond H. Myers, Sharon L. Myers, and Keying E. Ye, Pearson Education India, 9th Edition (2016)
2. Statistics for Management: Richard I. Levin, David S. Rubin, Sanjay Rastogi, and Masood Husain Siddiqui, Pearson Education India, 8th Edition (2017)
3. Statistics for Business and Economics: Paul Newbold, William L. Carlson, and Betty Thorne, Pearson Education India, 8th Edition (2012)

Reference Books

1. A First Course in Probability: Sheldon Ross, Pearson Education India, 9th Edition (2014)
2. Mathematical Statistics with Applications: Dennis Wackerly, William Mendenhall, and Richard L. Scheaffer, Cengage Learning India, 7th Edition (2008)
3. Introduction to the Practice of Statistics: David S. Moore, George P. McCabe, and Bruce A. Craig, W.H. Freeman & Co. 9th Edition (2016)

Web reads

1. Khan Academy - Probability and Statistics

- Link: [Khan Academy - Probability and Statistics](#)
- Description: Offers comprehensive video tutorials on probability, descriptive statistics, and inferential statistics, including hypothesis testing.

2. NPTEL - Introduction to Probability and Statistics

- Link: [NPTEL - Introduction to Probability and Statistics](#)

- Description: A course offered by IIT Kharagpur through NPTEL that covers a wide range of topics including probability, random variables, and statistical inference.

3. Statistics How To - Hypothesis Testing

- Link: [Statistics How To - Hypothesis Testing](#)
- Description: This site provides clear explanations and step-by-step guides for various hypothesis tests, including t-tests, chi-square tests, and ANOVA.

4. Harvard Business Review - A Refresher on A/B Testing

- Link: [Harvard Business Review - A Refresher on A/B Testing](#)
- Description: This article explains the basics of A/B testing, a common application of hypothesis testing in business analytics.

Lab List

Unit 1: Fundamentals of Probability and Probability Distributions

1. Calculating Probability Using Excel: Create an Excel spreadsheet to calculate the probability of different events based on given data. Use functions like BINOM.DIST for binomial distributions and NORM.DIST for normal distributions.
2. Creating Probability Distributions: Use Excel to create a probability distribution table for a set of random variables. Visualize the distribution using a bar chart.

Unit 2: Central Limit Theorem and Sampling Methods

3. Demonstrating the Central Limit Theorem: Generate random samples using Excel's RAND() function, calculate sample means, and demonstrate the Central Limit Theorem by plotting the distribution of sample means.
4. Sampling Techniques in Excel: Using Excel, demonstrate different sampling techniques (e.g., simple random sampling, stratified sampling) on a dataset. Calculate the sample mean and compare it with the population mean.

Unit 3: Concepts of Hypothesis Testing and Industry Demonstrations

5. T-Test and ANOVA in Excel: Use Excel's Data Analysis Toolpak to perform a t-test and one-way ANOVA on a given dataset. Interpret the results and make a decision based on the p-value.
6. Chi-Square Test in Excel: Perform a chi-square test using Excel on categorical data. Analyze the relationship between two variables and determine if the observed frequencies significantly differ from the expected frequencies.

Unit 4: Measures of Dispersion / Variability

7. Calculating and Visualizing Measures of Dispersion: Create an Excel sheet to calculate and visualize different measures of dispersion (Range, Variance, Standard Deviation) for a dataset. Use bar charts and box plots to display the data.

8. Comparing Dispersion Across Groups: Using Excel, calculate and compare the standard deviation and variance of two or more groups within a dataset. Interpret the results.

Unit 5: Analysis of Uni-Variate Data and Bi-Variate Data Correlation

9. Correlation Analysis in Excel: Use Excel to calculate the Pearson and Spearman correlation coefficients between two variables. Visualize the correlation with a scatter plot and add a trendline.
10. Creating and Interpreting Frequency Distributions: Develop frequency distribution tables in Excel for univariate data. Create histograms and analyze the central tendency (mean, median, mode) and variability.

Software required for practical

Microsoft Excel (with the Data Analysis Toolpak add-in)

Microsoft Word (for documenting the lab reports and observations)

Microsoft PowerPoint (for presenting findings, if needed)



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SYLLABUS

Course Code	Course Name	L	T	P	Total Credits
MS5NG02	Soft Skill - II	2	0	0	2

COURSE OUTCOMES

- 1 Understand the significance and essence of a wide range of Soft Skills
- 2 By the end of the course, students shall be able to: Learn how to apply soft skills in a routine, social and professional settings.
- 3 Learn how to employ soft skills to improve interpersonal Communication.
- 4 Learn how to employ soft skills to enhance employability relationships and ensure workplace and career success.

COURSE OBJECTIVE

- 1 Equipping students with the vital communication and soft skills to succeed in the highly competitive international arena
- 2 It aims at thorough understanding of the fundamental soft skills and of their practical social and workplace usage.
- 3 It helps participants to communicate effectively and to carry themselves confidently and in harmony with the surroundings.
- 4 They also learn how to identify and overcome the barriers in interpersonal relationships, and to employ oral and written communication, teamwork, leadership, problem-solving and decision-making skills, to gain best results.
- 5 Students would find this course immensely useful for landing a great job, building a career and also finding employment as soft skills trainers, both in India and abroad.
- 6 Enriching the individual's personality in the corporate arena, ensuring personal, social and professional productivity

Unit I

Speaking skills- Presentation and interaction, What to present and how, Skills, Methods, Strategies and Essential tips for effective public speaking, Group Discussion: Importance, Planning, Elements, Skills assessed; Effectively disagreeing, Initiating, Summarizing and Attaining the Objective, Multimedia presentation: Understanding the basics, Communication styles, Speaking in groups

Unit II

Interpersonal Communication I: Individuals, groups and cultures, Building Relationship, Groups, Conflicts and their Resolution, Conflict Management: Conflict - Definition, Nature, Types and Causes, Conflict Resolution. Stress Management: Stress - Definition, Nature, Types, Symptoms and Causes, Management of Stress

Unit III

Interpersonal communication II: Emotional and social skills Developing key traits Creativity, critical thinking and problem solving, Developing key traits : Motivation, persuasion, negotiation and leadership , Motivating oneself and motivating others, Positivity and Motivation: Developing Positive Thinking and Attitude; Driving out Negativity; Meaning and Theories of Motivation; Enhancing Motivation Levels, negotiation skills, Leadership. Teamwork and Leadership Skills: Concept of Teams; Building effective teams; Concept of Leadership and honing Leadership skills.

Unit IV

Interview Skills- Interviewer and Interviewee – in -depth perspectives, Before, During and After the Interview, Tips for Success, Etiquette and Manners – Social and Business.

Writing skill -Note-making – CV's – Report writing, Agenda – Minutes – Circular – Essay writing on any current issues – paragraph – Essay writing.

Unit V

Goal Setting and Managing Time The basis of effective goals – steps to be followed for goal setting – Identifying the reasons for procrastination – guidelines to overcome procrastination, Steps to prepare one's short term goals and long term goals. Time Management – Concept, Essentials, Tips. Personality Development – Meaning, Nature, Features

Note: Each topic in all the above units will be supplemented by practice exercises and classroom activities

Reference Books:

Managing Soft Skills for Personality Development – edited by B.N.Ghosh, McGraw Hill India, 2012.

English and Soft Skills – S.P.Dhanavel, Orient Blackswan India, 2010.

Business Communication Strategies. 11th Reprint. Tata McGraw – Hill. New Delhi. SasiKumar. V and P.V. Dharmija. 1993.

Spoken English: A Self-Learning Guide Conversation Practice. 34th reprint. Tata McGraw – Hill. New Delhi. Swets, Paul. W. 1983.

The Art of Talking So That People Will Listen: Getting Through to Family, Friends and Business Associates. Prentice Hall Press. New York. John, Seely The Oxford guide to writing and speaking. Oxford U P, 1998, Delhi.

Recommended Texts:

Hewing, Martin. 1999. Advanced English Grammar: A Self-study Reference and practice Book for South Asian Students. Reprint 2003. Cambridge University Press. New Delhi. Lewis, Norman. 1991.

Word Power Made Easy. Pocket Books. Hall and Shepherd.

The Anti-Grammar Book: Discovery Activities for Grammar Teaching Longman. Powell. In Company. MacMillan. Cotton, et al. Market Lader. Longman.

Writing and Speaking at Work: A Practical Guide for Business Communication. Pennsylvania: Prentice Hall. 2007.Print.

Johnson, D.W. (1997). Reaching out – Interpersonal Effectiveness and Self Actualization. 6th ed. Boston: Allyn and Bacon.

Developing Soft Skills. 4th ed. New Delhi: Pearson. 3. Robbins, S. P. and Hunsaker, Phillip, L. (2009).

Schafer, W. (1998). Stress Management for Wellness. 4th edition. Australia: Thomson & Wadsworth.

Robbins, S. P. and Hunsaker, Phillip, L. (2009). Training in Interpersonal skills. Tips for managing people at work. 5th ed. New Delhi: PHI Learning.