



# MCKV INSTITUTE OF ENGINEERING

NAAC Accredited "A" Grade Autonomous Institute under UGC Act 1956  
Approved by AICTE & affiliated to Maulana Abul Kalam Azad University of Technology, West Bengal  
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<b>Course Name:</b>	<b>Management Accounting</b>		
<b>Course Code:</b>	BBA-MJ-FM-701	<b>Category:</b>	Management Science
<b>Semester:</b>	7 <sup>th</sup> SEM	<b>Credit:</b>	4
<b>L-T-P:</b>	3-1-0	<b>Pre-Requisites:</b>	The basic concept of Finance
<b>Full Marks:</b>	100		
<b>Examination Scheme:</b>	Semester Examination:70	Continuous Assessment:25	Attendance:05

## Course Objectives:

1.	Acquiring essential skills in financial analysis and planning, understanding the core concepts, advantages, and limitations of management accounting, and distinguishing it from economic and cost accounting.
2.	Learning to assess costs, volume, and profits for decision-making and evaluating financial health using various ratios.
3.	Budgeting modules will cover types of budgets and their role in planning and control.
4.	Proficiency in solving problems related to financial analysis, budgeting, and decision-making in diverse business scenarios.

## Course Contents:

Module No.	Description of Topic	Contact Hrs.
1.	<b>Management Accounting:</b> Meaning, Features, Advantages, Limitations, Scope, and Functions of Management Accounting. Comparison between Management Accounting and Financial Accounting. Accounting, Management Accounting and Cost Accounting.	6L
2.	<b>Break-Even-Analysis:</b> Concept, Uses and Limitations of Break-Even Analysis, Margin of Safety, Contribution, Uses of P/V ratio for decision making, Cost-Profit-Volume Relationship, Fixed Cost Variation. Problems on Break Even Analysis.	6L



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3.	<b>Ratio Analysis:</b> Meaning of Ratio Analysis, Advantages and Limitations of Ratio Analysis, Types of Ratios. Simple Problems on Current Ratio, Quick Ratio Average, Collection/Payment Period, Stock Velocity, Debt-Equity Ratio, Proprietary Ratio, Gross Profit Ratio, Net Profit Ratio, Operating Ratio.	6L
4.	<b>Budget:</b> Meaning and Definition of Budget; Characteristics of Budget; Types of Budgets. Problems with the Cash budget.	6L
5.	<b>Budgetary Control:</b> Meaning and Definition of Budgetary Control, Objectives of Budgetary Control; Limitations of Budgetary Control. Problems on Flexible Budget.	8L
6.	<b>Sensitivity analysis:</b> changes in costs or prices affect the breakeven point. Detailed cash and flexible budget for various business scenarios. Eg. Pharmacy, readymade garments, etc. Analyse real-world companies using their financial statements to calculate and interpret ratios.	8L
<b>Total</b>		<b>40L</b>

## Course Outcomes:

After completion of the course, students will be able to:

1.	To recall and summarize the principles and distinctions of management, financial, and cost accounting and know about the advantages, limitations, and scope of management accounting, applying it to real-world scenarios.
2.	To utilize break-even analysis for cost-volume-profit assessments and decision-making and assess organizational financial health using ratio analysis.
3.	To judge various budget types, create cash budgets, and evaluate their planning efficacy and develop flexible budgets, analyze variances, and enhance budgetary control skills.
4.	To Combine financial tools to formulate strategic plans, thereby improving managerial decision making abilities for optimal organizational performance.

## Learning Resources:

1.	Khan M.Y. and Jain P.K.: Management Accounting: Tata Mc-graw-Hill Publishing Co. Ltd., New Delhi.
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2.	Kaplan R.S. and Atkison A.A, Advanced Management Accounting: Prentice India International.
3.	Gupta S.P.: Management Accounting, Sahitya Bhawan, Agra
4.	Goyal Manmohan : Principles of Management Accounting, Sahitya Bhawan, Agra.
5.	Singhavi N.P., Dr. Tated R.M., Dr. Chandak S.S. & Dahake R.R.: Management Accounting, Himalaya Publishing House , New Delhi

OR,

<b>Course Name:</b>	<b>Service Marketing</b>		
<b>Course Code:</b>	BBA-MJ-MM 701	<b>Category:</b>	Management Science
<b>Semester:</b>	Seventh	<b>Credit:</b>	4
<b>L-T-P:</b>	3-1-0	<b>Pre-Requisites:</b>	The basic concepts of Marketing Management
<b>Full Marks:</b>	100		
<b>Examination Scheme:</b>	Semester Examination:70	Continuous Assessment:25	Attendance:05

<b>Course Objectives:</b>	
1.	To introduce students to the core concepts, characteristics, and importance of services marketing in the contemporary business environment.
2.	To examine consumer decision-making processes, expectations, and perceptions in the context of services.
3.	To equip students with the knowledge to design and implement the 7Ps of the service marketing mix effectively.
4.	To enable students to formulate strategies for building and maintaining long-term customer relationships in service industries.

<b>Course Contents:</b>		
<b>Module No.</b>	<b>Description of Topic</b>	<b>Contact</b>



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		Hrs.
1.	<b>Introduction to Service Marketing: Definition and Characteristics of Services:</b> Understanding the unique aspects of services, Classification of Services: Categorizing services based on various criteria, Importance of Services Marketing: Role of services in the economy and business, Challenges in Services Marketing: Addressing issues like intangibility and perishability.	7L
2.	<b>Consumer Behavior in Services: Consumer Decision-Making Process in Services:</b> Stages and factors influencing decisions, Expectations vs. Perceptions: Understanding the gap and its impact on satisfaction, SERVQUAL Model: Dimensions of service quality and measurement, Role of Culture: Cultural influences on service expectations and delivery.	6L
3.	<b>Service Marketing Mix: Traditional 4Ps:</b> Product, Price, Place, Promotion, Extended 3Ps: People, Process, Physical Evidence, Service Product: Design, development, and bundling with tangible products, Service Pricing: Strategies, challenges, and customer perceptions, Place (Distribution): Channel selection and management in services, Promotion: Integrated marketing communication and service advertising, People: Role of employees in service delivery and customer satisfaction, Process: Service delivery mechanisms and standardization, Physical Evidence: Tangibles that facilitate service delivery and customer perception.	7L
4.	<b>Service Quality and Customer Satisfaction: Dimensions of Service Quality:</b> Reliability, Assurance, Tangibles, Empathy, Responsiveness, GAP Model: Identifying and addressing service delivery gaps, Customer Satisfaction: Measurement and management techniques. Service Failures and Recovery: Strategies for managing service breakdowns, Service Guarantees: Design and implementation for customer assurance.	7L
5.	<b>Relationship Marketing and Customer Retention: Customer Relationship Management (CRM):</b> Strategies for building long-term relationships, Customer Loyalty Programs: Design and implementation, Customer Profitability Segmentation: Identifying and nurturing profitable customers, Levels of Relationship Strategies: Transactional to collaborative approaches, Customer Appreciation: Techniques for recognizing and valuing customers.	7L



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6.	<b>Emerging Trends in Service Marketing:</b> Technology in Services: Impact of digitalization and automation, E-Services: Online service delivery models and challenges, Service Innovation: New service development and differentiation, Globalization of Services: Opportunities and challenges in international markets, Sustainability in Services: Eco-friendly practices and corporate social responsibility.	6L
<b>Total</b>		<b>40L</b>

## Course Outcomes:

After completion of the course, students will be able to:

1.	<b>Explain</b> the fundamental concepts and characteristics of services marketing.
2.	<b>Assess</b> consumer behavior and expectations in service contexts.
3.	<b>Design</b> a comprehensive service marketing mix tailored to specific service industries.
4.	<b>Implement</b> relationship marketing strategies to enhance customer loyalty and retention.

## Learning Resources:

1.	Zeithaml, V.A., Bitner, M J, Gremler, D.D. & Pandit, A.: Service Marketing; TMH
2.	Rao, K.R.M.: Services Marketing, Pearson Education
3.	Rajendra Nargundkar, Services Marketing: Text & Cases, Tata McGrawHill Publishing Company, New Delhi, 2008
4.	Services- Marketing, Operations, and Management, Jauhari & Dutta, Oxford

OR,

<b>Course Name:</b>	<b>Recruitment and Selection</b>		
<b>Course Code:</b>	BBA-MJ-HR 701	<b>Category:</b>	Management Science Course
<b>Semester:</b>	VII	<b>Credit:</b>	4
<b>L-T-P:</b>	3-1-0	<b>Pre-Requisites:</b>	Basic knowledge of human resource management



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<b>Full Marks:</b>	100		
<b>Examination Scheme:</b>	Semester Examination:70	Continuous Assessment:25	Attendance:05

## Course Objectives:

1.	To provide a foundational understanding of recruitment
2.	To equip students with the knowledge and skills required for effective job analysis
3.	To develop a clear understanding of the selection process.
4.	To familiarize students with induction, orientation, and the legal aspects of recruitment and selection

## Course Contents:

Module No.	Description of Topic	Contact Hrs.
1.	<b>Recruitment:</b> -Meaning, Objectives, Scope & Definition, Importance and relevance of Recruitment. Source or Type of Recruitment, Technique of Recruitment-Traditional Vs Modern Recruitment, Evaluation of Recruitment-Outsourcing Programme	10
2.	<b>Job Analysis:</b> Job Description and Job Specification, Role of Employer Branding in Recruitment, Use of Technology in Recruitment (ATS, AI tools), Role of Consultants and Employment Exchanges, Designing Recruitment Advertisements	10
3.	<b>Selection:</b> Concept of Selection, Criteria for Selection, Process, Screening-Pre and Post Criteria for Selection, Steps of Selection. Interviewing-Types and Guidelines for Interviewer & Interviewee, Types of Selection Tests, Effective Interviewing Techniques. Selection Hurdles and Ways to Overcome Them	10
4.	<b>Induction and legal aspect of recruitment:</b> Concept, Types-Formal /Informal, Advantages of Induction. How to make Induction Effective. • Orientation & On boarding-Programme and Types, Process. Legal Framework Related to Recruitment and Selection in India, Equal Employment Opportunity (EEO) and Diversity Hiring.	10



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Total	40
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## Course Outcomes:

After completion of the course, students will be able to:

1.	Demonstrate comprehensive knowledge of recruitment principles
2.	Analyze and design key components of job analysis
3.	Effectively apply the selection process
4.	Explain and implement effective induction, orientation, and onboarding programs

## Learning Resources:

1.	"Human Resource Management" by V.S.P. Rao
2.	"Recruitment and Selection" by Gareth Roberts (CIPD Publication)
3.	"Recruitment and Selection: Theories and Practices" by Dipak Kumar Bhattacharyya
4.	"Human Resource Management: Text and Cases" by K. Aswathappa

<b>Course Name:</b>	<b>Business Intelligence</b>		
<b>Course Code:</b>	BBA-MJ-702	<b>Category:</b>	Management Science
<b>Semester:</b>	7 <sup>th</sup> SEM	<b>Credit:</b>	4
<b>L-T-P:</b>	2-2-0	<b>Pre-Requisites:</b>	The basic concept of Analytics
<b>Full Marks:</b>	100		
<b>Examination Scheme:</b>	Semester Examination:70	Continuous Assessment:25	Attendance:05

## Course Objectives:

1.	To develop a foundational understanding of Business Intelligence (BI)
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2.	To enable proficiency in the core components and tools of Business Intelligence
3.	To guide students through the complete lifecycle of a BI project
4.	To familiarize students with data science integration, data visualization, and reporting techniques in BI

## Course Contents:

Module No.	Description of Topic	Contact Hrs.
1.	<b>Introduction to Business Intelligence:</b> BI concept, BI architecture, BI in today's perspective, BI Process, Applications of BI like Financial analysis, statistical analysis, sales analysis, CRM, result pattern and ranking analysis, Balanced Scorecard, BI in Decision Modelling: Optimization, Decision making under uncertainty. Ethics and business intelligence.	6L
-2.	<b>Elements of Business Intelligence:</b> Reports & adhoc queries; Analyse OLAP data; Dashboards & Scorecards development, Meta data Models; Automated tasks & events; Mobile& disconnected BI.	6L
3.	<b>Building the BI Project:</b> Planning the BI project, Project Resources, Project Tasks, Risk Management, Cost-justification, Collecting User Requirements, Requirements-Gathering Techniques, Prioritizing & Validating BI Requirements, Changing Requirements, BI Design and Development, Best Practices, Post-Implementation Evaluations.	6L
4.	<b>Data Science:</b> The concept, process and typical tools in data science. Example of different algorithms i.e. segmentation, classification, validation, regressions, recommendations.	5L
5.	<b>Data Visualization and Dashboard Design:</b> Responsibilities of BI analysts, Importance of data visualization, types of basic and composite charts, dashboards.	6L
6	<b>Reporting authoring:</b> Building reports with relational vs Multidimensional data models ; Types of Reports– List, crosstabs, Statistics, Chart, map, financial etc., Data Grouping & Sorting, Filtering Reports, Adding Calculations to Reports, Conditional formatting, Adding Summary Lines to Reports.	6L





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7	<b>Future of Business Intelligence:</b> Emerging Technologies, Machine Learning, Predicting the Future with the help of Data Analysis, BI Search & Text Analytics– Advanced Visualization– Rich Report, Future beyond Technology.	5L
<b>Total</b>		<b>40L</b>

## Course Outcomes:

After completion of the course, students will be able to:

1.	Summarise the concepts and components of Business Intelligence (BI).
2.	Illustrate the use of technologies and tools related to BI
3.	Out line the technological architecture that underpins BI systems.
4.	Apply the use of BI for supporting decision-making in an organisation.

## Learning Resources:

1.	Vercellis Carlo: Business Intelligence, Wiley India Pvt. Ltd.
2.	Meenakshi Gupta: Business Intelligence and Applications, BUUKS.
3.	Dr.Manoj Kumar Patel: Business Intelligence in Decision Making , BUUKS
4.	Surma Jerzy: Business Intelligence, Business Expert Press.
5.	Sharda Ramesh: Business Intelligence and Analytics, Pearson.

<b>Course Name:</b>	<b>Programming with R</b>		
<b>Course Code:</b>	PE-BBA-MI-701 PE-BBA-MI-791	<b>Category:</b>	Management Science
<b>Semester:</b>	7 <sup>th</sup> SEM	<b>Credit:</b>	4
<b>L-T-P:</b>	2-0-4	<b>Pre-Requisites:</b>	Basic computer literacy
<b>Full Marks:</b>	100		



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<b>Examination Scheme:</b>	Semester Examination:70	Continuous Assessment:25	Attendance:05
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## Course Objectives:

1.	To understand the Fundamentals of data types and operators.
2.	To understand the concepts about conditional statements in R.
3.	To understand and implement String, List, Matrix, Vectors
4.	To understand packages used for visualization in R.

## Course Contents:

Module No.	Description of Topic	Contact Hrs.
1.	<b>Introduction to Data Science and Data Analytics:</b> Data: Types of data, scales of measurement. Univariate Data: Descriptive measures related to univariate metric data. Bivariate Data: Descriptive measures related to bivariate metric data. Correlations, linear and polynomial regressions. Descriptive measures related to bivariate. categorical data: Measures of associations in a contingency table. Exploratory data analysis: Philosophy of EDA, Basic tools of EDA (plots, graphs, and summary statistics).Data Visualization: Basic principles, ideas, and tools for data visualization. Visualization of qualitative, quantitative, temporal, spatial, and panel data. Introduction to Data Analysis Tools.	(2L+8P)=6
2.	<b>Basics of R Programming:</b> What is R? – Why R? – Advantages of R over Other Programming Languages - R Studio: R command Prompt, R script file, comments – Handling Packages in R: Installing a R Package, Few commands to get started: installed. packages(), package Description(), help(), find. package(), library() - Input and Output – Entering Data from the keyboard – Printing fewer digits or more digits – Special Values functions: NA, Inf and -inf.  R Data Types: Vectors, Lists, Matrices, Arrays, Factors, Data Frame – R - Variables: Variable assignment, Data types of Variable, Finding Variable ls(), Deleting Variables - R Operators:	(3L+10P)=8

	Arithmetic Operators, Relational Operators, Logical Operator, Assignment Operators, Miscellaneous Operators - R Decision Making: if statement, if – else statement, if – else if statement, switch statement – R Loops: repeat loop, while loop, for loop - Loop control statement: break statement, next statement.	
3.	<b>R-Function:</b> Function definition, Built-in functions: mean(), paste(), sum(), min(), max(), seq(), user-defined function, calling a function, calling a function without an argument, calling a function with argument values - R-Strings – Manipulating - R Vectors – Sequence vector, rep function, vector access, vector names, vector math, vector recycling, vector element sorting - R List - Creating a List, List Tags and Values, Add/Delete Element to or from a List, Size of List, Merging Lists, Converting List to Vector - R Matrices – Accessing Elements of a Matrix, Matrix Computations: Addition, subtraction, Multiplication and Division- R Arrays: Naming Columns and Rows, Accessing Array Elements, Manipulating Array Elements, Calculation Across Array Elements - R Factors –creating factors, generating factor levels gl().  String functions: grep(), nchar() ,paste(), sprintf(), substr(), strsplit(), regex() grexexpr(), toupper(),tolower(), paste()	(6L+16P)=14
4.	<b>Introduction to different packages of R:</b> ggplot2, ggraph, dygraphs, MASS, tidyquant, dplyr.	(2L+20P)=12
<b>Total</b>		<b>(13L+54P)=40</b>

Course Outcomes:	
After completion of the course, students will be able to:	
1.	To understand Data analytics, its types and its applications and to get knowledge about R studio installation and R programming fundamental concepts like variable, data types, commands.
2.	To apply the basics in R programming in terms of functions, loops, decision making and data structure.
3.	To design various experiments based on graphs and charts for data visualization in R programming.



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4.	To apply of statistical computations for data analytics.
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## Learning Resources:

1.	Jared P Lander; R for Everyone Addison Wesley Publication
2.	Sandip Rakshit; R Programming for Beginners Mc Graw Hill
3.	C Raju; Data Science: A Beginner's Guide Penguin Business
4.	V K Jain; Data Science and Analytics (with Python, R and SPSS Programming) Khanna Books

<b>Course Name:</b>	<b>DBMS with SQL</b>		
<b>Course Code:</b>	PE-BBA-MI-702 PE-BBA-MI-792	<b>Category:</b>	Information Technology
<b>Semester:</b>	Seventh	<b>Credit:</b>	(2L+4P)=4
<b>L-T-P:</b>	2-0-4	<b>Pre-Requisites:</b>	The basic concept of Computer
<b>Full Marks:</b>	100		
<b>Examination Scheme:</b>	Semester Examination:70	Continuous Assessment:25	Attendance:05

## Course Objectives:

1.	<b>To</b> equip students with the knowledge of database fundamentals, system architecture, data models, and the role of relational database in business systems.
2.	<b>To</b> enlighten students with an idea of model real-world business scenarios using ER diagrams and apply normalization principles to ensure efficient data design
3.	<b>To</b> develop proficiency of the students in SQL (DDL, DML, DCL/TCL), advanced query techniques, and basic PL/SQL for business data manipulation
4.	<b>To</b> enable students to apply practical skills using RDBMS tools to design, query, manage transactional behavior, and perform performance enhancements.

## Course Contents:

Module No.	Description of Topic	Contact Hrs.
1.	<p>Module 1: DBMS Foundations &amp; Modelling</p> <p><b>Lectures (5):</b></p> <p>Basics: Data vs Information, File systems vs DBMS, advantages.</p> <p>DBMS architecture, data models (relational focus), DBA roles.</p> <p>Entity-Relationship concepts: entities, attributes, keys.</p> <p>ER diagrams, relationship types (including weak entities).</p> <p>Schema–instance concepts, Three-schema architecture, data independence.</p> <p><b>Practicals (10):</b></p> <p>Setup RDBMS (e.g., MySQL).</p> <p>Create databases and tables with primary/foreign keys.</p> <p>Draw ER diagrams via digital tools (e.g., Draw.io).</p> <p>Translate ER models into relational tables.</p> <p>Explore schema metadata using system tables.</p>	5L+10P
2.	<p>Module 2: Relational Algebra &amp; Normalization</p> <ul style="list-style-type: none"> <li><b>Lectures (5):</b> Relational algebra operations: SELECT, PROJECT, JOIN, UNION. Mapping ER diagrams to relational schema.</li> </ul>	5L+10P

	<p>Functional dependencies and normalization rationale. Normal forms: 1NF, 2NF, 3NF, BCNF. Decomposition and anomalies (insert, update, delete).</p> <ul style="list-style-type: none"> <li><b>Practicals (10):</b> <ul style="list-style-type: none"> <li>Formulate queries using relational algebra.</li> <li>Convert ER diagrams into relational table schemas.</li> <li>Identify functional dependencies.</li> <li>Normalize sample unnormalized datasets to 3NF/BCNF.</li> <li>Design mini business database schema using normalization.</li> </ul> </li> </ul>	
3.	<p>Module 3: Core SQL &amp; Business Queries</p> <ul style="list-style-type: none"> <li><b>Lectures (5):</b> SQL basics: DDL, CREATE/ALTER/DROP, constraints. DML: INSERT, UPDATE, DELETE; basic SELECT with WHERE and ORDER BY. Aggregate functions (SUM, AVG, COUNT, MIN, MAX), GROUP BY, HAVING. JOIN types, nested queries, set operations, views. Basics of transactions: ACID properties, COMMIT, ROLLBACK.</li> <li><b>Practicals (10):</b> <ul style="list-style-type: none"> <li>Execute table creation with constraints.</li> <li>Perform INSERT/UPDATE/DELETE operations.</li> <li>Query with filters, sorting, and aggregates.</li> <li>Build queries involving joins, nested queries, and views.</li> <li>Run transaction scenarios demonstrating rollback and commit.</li> </ul> </li> </ul>	5L+10P
4.	<p>Module 4: Advanced SQL, RDBMS Tools &amp; Modern Concepts</p> <ul style="list-style-type: none"> <li><b>Lectures (5):</b> PL/SQL basics: stored procedures, functions, cursors, triggers. Indexing strategies: B-tree, hashing, performance considerations. Transaction concurrency: locking, isolation levels, deadlock handling. Introduction to NoSQL: types, features, and when to use them. Business case study: designing a database-driven mini project.</li> <li><b>Practicals (10):</b> <ul style="list-style-type: none"> <li>Create and test triggers and stored procedures for business rules.</li> <li>Build indexes and compare query performance.</li> <li>Simulate concurrency scenarios and lock contention.</li> <li>Explore simple NoSQL queries conceptually (e.g., in</li> </ul> </li> </ul>	5L+10P



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	MongoDB). <ul style="list-style-type: none"><li>Capstone mini-project: design database for a business scenario (like inventory, sales).</li></ul>	
<b>Total</b>		<b>20L+40P</b>

## Course Outcomes:

After completion of the course, students will be able to:

1.	Articulate the advantages of DBMS over file systems, describe architecture, data models, and data integrity mechanisms
2.	Design conceptual and logical database schemas through ER modeling and normalization up to 3NF/BCNF
3.	Write and execute SQL queries including CRUD operations, joins, nested queries, views, aggregate functions, and transaction control
4.	Employ advanced SQL techniques—triggers, stored procedures, indexing, concurrency control—and conceptualize NoSQL applicability in business contexts

## Learning Resources:

1.	"Database System Concepts", by Abraham Silberschatz, Henry F. Korth, S. Sudarshan, McGraw Hill Education
2.	"Fundamentals of Database System", by Ramez Elmasri, Shamkant B. Navathe, Pearson Education
3.	"Database Management Systems", by Raghu Ramakrishnan, Johannes Gehrke, McGraw Hill Education
4.	"SQL, PL/SQL – The Programming Language of Oracle" by Ivan Bayross, BPB Publications