



**PRAHLADRAI DALMIA LIONS COLLEGE
OF COMMERCE & ECONOMICS**

ISO 9001 : 2015 Certified

NOTICE

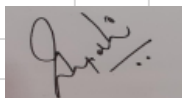
B.Sc.(Information Technology)

24-07-2024

S.Y.B.Sc.(T.T.) Sem III & T.Y.B.Sc.(I.T.) Sem V PCT Examination Syllabus AUGUST - 2023

SR. NO.	SEM	SUBJECT	MODULE	TOPICS COVERED
1	III	DATA STRUCTURE	UNIT 1	Unit 1: Introduction: Data and Information, Data Structure, Classification of Data Structures, Primitive Data Types, Abstract Data Types, Datastructure vs. File Organization, Operations on Data Structure, Algorithm, Importance of Algorithm Analysis, Complexity of an Algorithm, Asymptotic Analysis and Notations, Big O Notation, Big Omega Notation, Big Theta Notation, Rate of Growth and Big O Notation. Array: Introduction, One Dimensional Array, Memory Representation of One Dimensional Array, Traversing, Insertion, Deletion, Searching, Sorting, Merging of Arrays, Multidimensional Arrays, Memory Representation of Two Dimensional Arrays, General MultiDimensional Arrays, Sparse Arrays, Sparse Matrix, Memory Representation of Special kind of Matrices, Advantages and Limitations of Arrays.
2	III	OPERATING SYSTEMS	UNIT 1	OS overview, objectives, functions, evolution, modern Os, fault tolerance, multiprocessor and multicore, overview of different OS.
3	III	PYTHON PROGRAMMING	UNIT 1	Introduction: The Python Programming Language, History, features, Installing Python, Running Python program, Debugging : Syntax Errors, Runtime Errors, Semantic Errors, The Difference Between Brackets, Braces, and Parentheses, Variables and Expressions Values and Types, Variables, Variable Names and Keywords, Type conversion, Operators and Operands, Expressions, Interactive Mode and Script Mode, Order of Operations. Conditional Statements: if, if-else, nested if -else Looping: for, while, nested loops Control statements: Terminating loops, skipping specific conditions
4	III	APPLIED MATHEMATICS	UNIT 1	Matrices, Differential Equations (MSV)
5	III	COMPUTER NETWORKS	UNIT 1	Computer Network, Evolution of Computer Networks Different types of Computer Network, Difference between LAN, MAN and WAN, Hardware Devices used for networking: Network Interface Card (NIC), Modem, Hub, Switch L1 and L2 switches, Comparison between switch and hub, Bridge, Router, Gateway. Standards and administration. etwork Models: Protocol layering, TCP/IP protocol suite, The OSI model.
1	V	ENTERPRISE JAVA	UNIT 1	Understanding Java EE, Java EE Technologies, Java EE evolution, Java EE Architecture, Introduction to Java Servlets, Servlet API and Lifecycle.
2	V	ADVANCED WEB PROGRAMMING	UNIT 1	Introducing .NET, The C# Language, Types, Objects, and Namespaces
3	V	ARTIFICIAL INTELLIGENCE	UNIT 1	Introduction: What is Artificial Intelligence? Foundations of AI, history, the state of art AI today. Intelligent Agents: agents and environment, good behavior, nature of environment, the structure of agents.

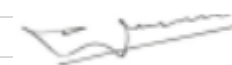
4	V	SOFTWARE PROJECT MANAGEMENT	UNIT 1	Introduction to Software Project Management: Introduction, Why is Software Project Management Important? What is a Project? Software Projects versus Other Types of Project, Contract Management and Technical Project Management, Activities Covered by Software Project Management, Plans, Methods and Methodologies, Some Ways of Categorizing Software Projects, Project Charter, Stakeholders, Setting Objectives, The Business Case, Project Success and Failure, What is Management? Management Control, Project Management Life Cycle, Traditional versus Modern Project Management Practices. Project Evaluation and Programme Management: Introduction, Business Case, Project Portfolio Management, Evaluation of Individual projects, Cost–benefit Evaluation Techniques, Risk Evaluation, Programme Management, Managing the Allocation of Resources within Programmes, Strategic Programme Management, Creating a Programme, Aids to Programme Management, Some Reservations about Programme Management, Benefits Management
5	V	INTERNET OF THINGS	UNIT 1	The Internet of Things: An Overview : The Flavour of the Internet of Things, The “Internet” of “Things”, The Technology of the Internet of Things, Enchanted Objects, Who is Making the Internet of Things? Design Principles for Connected Devices: Calm and Ambient Technology, Magic as Metaphor, Privacy, Keeping Secrets, Whose Data Is It Anyway? Web Thinking for Connected Devices, Small Pieces, Loosely Joined, First-Class Citizens On The Internet, Graceful Degradation, Affordances. Internet Principles: Internet Communications: An Overview, IP, TCP, The IP Protocol Suite (TCP/IP), UDP, IP Addresses, DNS, Static IP Address Assignment, Dynamic IP Address Assignment, Pv6, MAC Addresses, TCP and UDP Ports, An Example: HTTP Ports, Other Common Ports, Application Layer Protocols, HTTP, HTTPS: Encrypted HTTP, Other Application Layer Protocols



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