

Unit.No	Unit Name	Resource	Topics
1	Introduction to Data Structures		1 Basic Terminology; Elementary data organization, Data Structures, Data structure operations
			2 Review of C++
			3 Declaration of variable, Reference variables
			4 Scope resolution operator
			5 Classes & Objects: Specifying a class
			6 Defining member functions, A C++ program with class
			7 Constructors & Destructors
2	Linked List		1 Singly Linked Lists: Concept, Representation of Linked list in Memory
			2 Traversing a linked list, Searching a linked list
			3 Memory Allocation; Garbage collection, Insertion into Linked list
			4 Deletion from a linked list
			5 Circularly Linked list, Doubly Linked List
			6 Linked list for embedded system programming.
3	Stacks		1 Stacks: Concept, operations of stacks, Array representation of stack
			2 Linked representation of stack
			3 Application of stacks: Arithmetic expressions
			4 Concept, Array representation of queues
			5 Linked representation of queue

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4	Trees		6 Circular queue , Applications of queue
			1 Binary Trees: Concept & Terminologies, Representation of Binary Tree in memory
			2 Traversing a binary tree
			3 Binary Search Trees (BST)
			4 Searching a binary search tree
			5 Traversing a binary search tree
5	Graphs		6 Application of Trees: Expression Tree.
			1 Graph theory terminology, Sequential representation of graphs
			2 Adjacency matrix, Linked representation of a graph
			3 Operations on graph, Traversing a graph
			4 Spanning trees; Minimum Spanning tre
			5 Kruskal's Algorithm
6	JAVA fundamentals		6 Prim's Algorithm
			1 Evolution of Java, Comparison of Java with other programming languages
			2 Java features, Java Environment
			3 Simple Java Program, Java Tokens
			4 Java Statements, Constants, variables, data types
			5 Mathematical functions
			6 Control statements- Decision making & branching, Decision making & looping

Unit.No	Unit Name	Resource	Topics
			7 Class Fundamentals, Declaring Objects
			8 Assigning Object reference variables, Methods