

4-YEAR B. TECH.
&
5-YEAR DUAL DEGREE
IN
COMPUTER SCIENCE & ENGINEERING

III SEMESTER B.TECH & DUAL DEGREE- CSE					
Course No.	Name of the Courses	L	T	P	Credit Hrs.
CSC13102	Data Structures	3	1	0	7
CSC13103	Discrete Mathematics	3	0	0	6
CSC13104	Object Oriented Programming	3	0	0	6
EIR13101	Digital Electronics	3	0	0	6
AMR13101	Methods of Applied Mathematics -I	3	1	0	7
CSC13202	Data Structures Lab	0	0	3	3
CSC13204	Object Oriented Programming Lab	0	0	3	3
CSC13801	Project	0	0	2	2
Total					40
Contact Hrs.		15	2	8	25

CSC13102	DATA STRUCTURES	3-1-0
<p>Introduction to Data Structures: Basic concepts, Mathematical Background, Complexity Analysis, Classifications, Primitive Data Structure & its Representation.</p> <p>Arrays: Linear Array & its Representation, Two Dimensional Array & its Representation, Multi-Dimensional Array, Operations on Arrays, Applications – Linear System Equations, Polynomials, Sparse Matrix.</p> <p>Stacks: Stacks & its Representation, Operations on Stacks, Applications – Arithmetic Expression Evaluation, Parenthesis Matching, Recursion, Tower of Hanoi.</p> <p>Queues: Queues & its Representation, Operations on Queues, Circular Queues, Double Ended Queue, Priority Queue, Applications.</p> <p>Linked Lists: Linked List, Operations on Linked List, Circularly Linked List, Doubly Linked List, Representing Stacks & Queues, Representing Polynomial, Applications – Polynomial Manipulation, Ordered Polynomial.</p> <p>Trees: Binary Tree & its Representation, Traversal Operation, Complete Binary Tree, Heap, Huffman Algorithm, Threaded Binary Tree, Binary Search Tree, Radix Tree, Height Balanced Tree, AVL Tree, 2-3 Tree, B-Trees, Red-Black Tree, Tries, Applications.</p> <p>Graphs: Graph, Adjacency Matrix, Path Matrix, Warshall's Algorithm, Connected Components, Graph Traversal, Topological Sort, Spanning Tree, Kruskal's Algorithm, Prim's Algorithm, Shortest Paths and Transitive Closure, Applications.</p> <p>Sorting & Searching: Selection Sort, Bubble Sort, Quick Sort, Heap Sort, Merge Sort, Insertion Sort, Radix Sort, Linear and Binary Search.</p> <p>Hashing: Hashing, Hashing Techniques, Applications.</p>		