



Sardar Patel Institute of Technology

Bhavan's Campus, Munshi Nagar, Andheri (West), Mumbai-400058-India
(Autonomous Institute Affiliated to University of Mumbai)

Course Code	Course Name	Teaching Scheme (Hrs/week)			Credits Assigned				
		L	T	P	L	T	P	Total	
ITL31	Advanced Data Structures Lab	-	-	2	-	-	1	1	
		Examination Scheme							Total
		ISE		ESE		Total			
		40		Practical	Oral		10	10	60

Pre-requisite Course Codes	ES4 (Programming Methodology and Data Structures) IT31 (Advanced Data Structures)
After successful completion of the course, student will be able to:	
Course Outcomes	Student will be able to
	CO1 Implement various Linked List Operations.
	CO2 Implement various Operations of Trees and Graphs.
	CO3 Construct different Heap structures.
	CO4 Analyze different hashing and collision resolution techniques.
	CO5 Choose an appropriate data structure to solve a given problem.

Exp. No.	Experiment Details	Ref.	Marks
1	Implement a given scenario using Linked List.	1,2	5
2	Construct an expression tree using Binary Trees Concept	1,2	5
3	Develop an application to explore the uses of an AVL tree	1,2	5
4	Develop Search application using B-Tree.	1,2	5
5	Demonstrate an application using B+ Tree	1,2	5
6	Implement Operations of Heap Structures	2	5
7	Implement hash functions with different collision resolution techniques	1,2	5
8	Traverse a Graph using Graph Traversal Technique	1,2	5
Total Marks			40

References:

1. Thomas H.Cormen, Charles E. Leiserson, Ronald L Rivest, Clifford Stein, "Introduction to Algorithms", 3rd edition, MIT Press, Massachusetts, 2009.
2. Horowitz E, Sahni S and S.Rajasekaran, "Fundamentals of Computer Algorithms", 2nd edition, Galgotia Publications, New Delhi, 2010.