Code No: R21051 **R10** SET - 1

II B. Tech I Semester Supplementary Examinations, June - 2015
DATA STRUCTURES
(Comm. to CSE,IT,ECC)

Time: 3 hours Max. Marks: 75

Answer any **FIVE** Questions
All Questions carry **Equal** Marks

1	a)	Differentiate between linear search and binary search and also give examples for each.	[7M]
	b)	Write an algorithm's for linear search and binary search.	[8M]
2	a)	Explain about the sorting technique which uses selection concept.	[5M]
	b)	Write an algorithm for insertion sort and also explain with one example.	[10M]
3	a)	What is FIFO? How to represent Stack? Explain.	[8M]
	b)	Write an algorithm for evaluating arithmetic expression.	[7M]
4	a)	Differentiate between doubly linked list and circular linked list.	[5M]
	b)	Write an algorithm for creating a singly linked list and perform the insertion and deletion operations on it.	[10M]
5	a)	Explain about the Binary tree Traversal with examples.	[7M]
	b)	Write an algorithm for creation of Binary tree.	[8M]
6	a)	What is threaded binary tree? Explain.	[5M]
	b)	Write an algorithm for inserting an element into a Binary search tree.	[10M]
7	a)	What is BFS? Discuss with example.	[7M]
	b)	Write any one algorithm for minimum cost spanning tree.	[8M]
8	a)	What is Abstract data type? Discuss with example.	[6M]
	b)	Write an ADT for Stack and perform operations on it.	[9M]

Code No: R21051 **R10** SET - 2

II B. Tech I Semester Supplementary Examinations, June - 2015
DATA STRUCTURES
(Comm. to CSE,IT,ECC)

Time: 3 hours Max. Marks: 75

Answer any **FIVE** Questions
All Questions carry **Equal** Marks

1	a)	What is Fibonacci search? Explain with examples.	[8M]
	b)	Write an algorithm for Fibonacci search.	[7M]
2	a)	Explain about the sorting technique which uses distribution concept.	[5M]
	b)	Write an algorithm for Quick sort and also explain with one example.	[10M]
3	a)	What is LIFO? How to represent Queue? Explain.	[6M]
	b)	Write an algorithm for infix to postfix conversion expression.	[9M]
4	a)	What are the applications of the singly linked list.	[5M]
	b)	Write an algorithm for creating a singly linked list and perform the insertion and deletion operations on it.	[10M]
5	a)	Explain about the properties of the Binary tree.	[6M]
	b)	Write an algorithm for pre-order traversal of a binary tree.	[9M]
6	a)	What is binary search tree? Explain.	[5M]
	b)	Write an algorithm for deleting an element from a Binary search tree.	[10M]
7	a)	What is DFS? Discuss with example.	[8M]
	b)	Write an algorithm for warshall's algorithm.	[7M]
8	a)	What is Abstraction? Discuss with example.	[5M]
	b)	Write an ADT for Queue and perform operations on it.	[10M]

Code No: R21051 **R10** SET - 3

II B. Tech I Semester Supplementary Examinations, June - 2015
DATA STRUCTURES
(Comm. to CSE,IT,ECC**)**

Time: 3 hours Max. Marks: 75

Answer any **FIVE** Questions
All Questions carry **Equal** Marks

1	a)	What do you mean by linear and binary recursion? Give examples	[8M]
	b)	Write an algorithm for GCD computation using recursion	[7M]
2	a)	Is merge sort is stable sort? Discuss.	[5M]
	b)	Write an algorithm for merge sort and also explain with one example.	[10M]
3	a)	What is enqueue and dequeue? What are the applications of Queue? Explain.	[7M]
	b)	Write an algorithm for performing queue operations.	[8M]
4	a)	What is singly linked list? How to represent it? Discuss.	[7M]
	b)	Write an algorithm for merging two singly linked lists.	[8M]
5	a)	What is Binary Tree? What are the operations of Binary tree? Discuss.	[6M]
	b)	Write an algorithm for post-order traversal of a binary tree.	[9M]
6	a)	What are the applications of the Balanced binary tree? Explain.	[5M]
	b)	Write an algorithm for pre-order traversal without using recursion.	[10M]
7	a)	How to represent graphs? Discuss.	[5M]
	b)	Write an algorithm for minimum cost spanning tree using kruskal's	[10M]
8	a)	What is set? How to perform operations on it? discuss	[6M]
	b)	Write an ADT for Stack and perform operations on it.	[9M]

Code No: R21051 **R10** SET - 4

II B. Tech I Semester Supplementary Examinations, June - 2015
DATA STRUCTURES
(Comm. to CSE,IT,ECC)

Time: 3 hours Max. Marks: 75

Answer any **FIVE** Questions
All Questions carry **Equal** Marks

1	a)	What is algorithm? How to analyze the performance of an algorithm? Discuss.	[7M]
	b)	Explain about the Towers of Hanoi problem and also write algorithm for it.	[8M]
2	a)	Which sorting technique is efficient? Discuss.	[5M]
	b)	Write an algorithm for heap sort and also explain with one example.	[10M]
3	a)	What is priority Queue? Explain	[5M]
	b)	Write an algorithm for infix to postfix conversion,	[10M]
4	a)	What are the advantages and disadvantages of singly linked list? Explain.	[8M]
	b)	Write an algorithm for reversing a singly linked list.	[7M]
5	a)	How to represent Binary trees? Discuss.	[6M]
	b)	Write an algorithm for in-order traversal of a binary tree.	[9M]
6	a)	What is balanced binary tree? Explain.	[5M]
	b)	Write an algorithm for post-order traversal without using recursion.	[10M]
7	a)	What are the applications of Graphs? Discuss.	[5M]
	b)	Write an algorithm for minimum cost spanning tree using prim's	[10M]
8	a)	What are the applications of set? Discuss.	[5M]
	b)	Write an ADT for Queue and perform operations on it.	[10M]