

Code No: RT21042

**R13****SET - 1****II B. Tech I Semester Supplementary Examinations, May/June - 2016****DATA STRUCTURES**

(Com. to ECE, CSE, EIE, IT, ECC)

Time: 3 hours

Max. Marks: 70

- Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)  
2. Answer **ALL** the question in **Part-A**  
3. Answer any **THREE** Questions from **Part-B**
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**PART - A**

1. a) Write a procedure for the Tower of Hanoi problem?  
b) What you mean by enqueue and dequeue operations in a queue?  
c) Justify, which is most efficient from Single linked list, Double Linked List and Circular Linked List?  
d) Explain the concept of Level order Binary tree traversal?  
e) Explain about Threaded Binary Tree?  
f) What do you mean by Minimum Spanning Tree explain?

**PART - B**

2. a) Explain the difference between Linear Search and Binary Search?  
b) Using recursion, write an Algorithm for GCD Computation?
3. a) How to represent Queue using Array, Explain?  
b) Write Recursive Algorithms for Pre-order, In-order and Post-order traversals? Explain.
4. a) Briefly explain the advantages and disadvantages of Single and Double Linked List?  
b) Explain the mechanism of Deleting an element from front, rear and any of the Single Linked List?
5. a) Write an Algorithm to implement Binary tree using Arrays?  
b) Write a function to find an element and its position in a Binary Tree?
6. a) Give non -Recursive inorder tree traversal algorithm?  
b) How Balanced Binary Trees are used in Computer Application. Explain?
7. a) Explain about Warshall's Algorithm?  
b) Write an Algorithm for Depth First Search Traversals?

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