

Roll No. 

Total No. of Pages : 02

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B.Tech.(ECE)/(ETE) (2011 Onwards)  
B.Tech.(Electronics Engg.) (2012 Onwards)  
(Sem.-5)

**DATA STRUCTURES**

Subject Code : BTCS-304

M.Code : 70544

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTION TO CANDIDATES :**

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

**SECTION-A****Q1 Answer briefly :**

- a) Dangling pointers
- b) Queue
- c) Complexity of Linear Search
- d) Heaps
- e) Out degree in graphs
- f) Linked Lists
- g) Sparse matrix
- h) Rehashing
- i) Big 'O' notation
- j) AVL Trees

### SECTION-B

- Q2. Write a note on Arrays.
- Q3. Write an algorithm to insert in an item in the beginning on circular queue.
- Q4. Differentiate between BFS and DFS in graphs.
- Q5. Discuss various operations on queue.
- Q6. Write an algorithm for binary search.

### SECTION-C

- Q7. Create a BST of 15 nodes. Write all 3 traversals.
- Q8. What do you mean by infix, prefix and postfix expressions? How to evaluate postfix?
- Q9. Discuss with example procedure of radix sort.

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**