

Roll No. 

Total No. of Pages :02

Total No. of Questions : 18

B.Tech.(3D Animation &amp; Graphics) (2012 Onwards)

B.Tech.(CSE)/(IT) (2011 Onwards)

(Sem.-3)

**DATA STRUCTURES**

Subject Code : BTCS-304

Paper ID : [A1126]

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 has to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.

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

1. Give the use of NULL pointer in C.
2. What is memory leak and dangling pointer?
3. Write the definition of Big O notation.
4. What are applications of double Linked List?
5. Discuss dequeue and priority queue.
6. What is B Tree and its properties?
7. What is adjacency Matrix?
8. Compare direct address tables with hash tables.
9. What are advantages of insertion sort?
10. What is complexity of Binary Search?

### SECTION-B

11. Give the syntax of copy an array into another array.
12. Write the operation to delete last occurrence of an item from linked list.
13. Explain the process of traversing a binary tree using non- recursive procedures.
14. Why is threaded binary tree required? Give the brief introduction to threaded Binary trees.
15. Illustrate the concept of breadth-first search traversing of graph by taking a suitable example.

### SECTION-C

16. Discuss various operations that can be performed on data structure with their applications.
17. How a linear array is represented in memory? Explain the program which reads two matrixes.
18. Write an algorithm to sort an array of integers in the descending order using selection sort.