Roll No. | | | | | | | | | | | | | Total No. of Pages :02

Total No. of Questions : 18

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

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

(Sem.–3)

DATA STRUCTURES

Subject Code : BTCS-304

M.Code : 56594

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) How pointers are used to manage address of memory?

2) What is dangling pointer give example?

3) Give some applications of stack.

4) How time complexity of an algorithm is computed?

5) Discuss recursive procedures in trees.

6) Discuss AVL trees.

7) Write use of heap sort.

8) What is undirected graph?

9) Discuss rehashing in hash tables.

10) Give the syntax of selection sort.

SECTION-B

11. How queues are represented in memory? Write their applications.

12. What are the tree traversal techniques? Explain each with an example.

13. What is Stack? Why it is known as LIFO? Write an algorithm using PUSH and POP.

14. Give idea of hashing and its use as hashing function.

15. Explain Inorder, Preorder and Postorder Traversal operation on Binary tree with example.

SECTION-C

16. a. Write the procedure to implement the adjacent matrix.

    b. Define data structure graph. How they are represented in memory?

17. What do you mean by Link list? Write an algorithm to insert and delete a node in Singly Linked List.

18. How does a linear search algorithm work? Give the syntax by taking an example set. Compute the complexity of linear search algorithm.

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.