K23U 3539

Reg. No. : ....

Name : ....

III Semester B.C.A. Degree (C.B.C.S.S. – O.B.E. – Regular/Supplementary/ Improvement) Examination, November 2023
(2019 to 2022 Admissions)
GENERAL AWARENESS COURSE
3A12BCA : Data Structures

Time : 3 Hours

Max. Marks : 40

PART – A
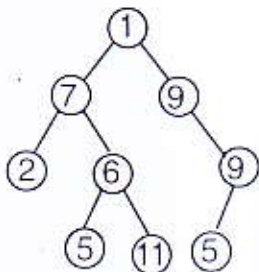**Short Answer**

Answer **all** questions :

(6×1=6)

1. What do you mean by linear data structures ?

2. Mention memory representation for linked list.

3. Mention any one application of tree.

4. Convert the following equation to postfix.
   $A + B - (C + D) \cdot E/F$

5. What do you mean by pre order tree traversal ?

6. What do you mean by stack overflow ?

PART– B
Short Essay

Answer **any 6** questions :

(6×2=12)

7. Write algorithm to perform push operation to stack.

8. Write note on binary search.

9. Explain how to represent binary tree in memory.

10. Perform inorder traversal of binary tree given below :

11. Write function or algorithm to implement stack using linked list.

12. Compare prefix and postfix expressions.

13. Write note on merge sort.

14. Write note on circular linked list.

PART – C
Essay

Answer **any 4** questions :   (4×3=12)

15. Briefly explain the concept of polynomial addition.

16. Explain linear search with suitable example.

17. Explain applications of stack.

18. Short note on binary tree representation.

19. Write short note on dequeue.

20. Explain doubly linked list with example.

PART – D
Long Essay

Answer **any 2** questions :   (2×5=10)

21. Explain quick sort with example.

22. Explain operations of queue using array.

23. Explain various operations on linear linked list.

24. Explain BST and its operations with example.