



K20U 1817

Reg. No. :

Name :

**III Semester B.Sc. Degree CBCSS (OBE) – Regular
Examination, November 2020
(2019 Admission Only)
CORE COURSE IN COMPUTER SCIENCE
3B04 CSC : Data Structures**

Time : 3 Hours

Max. Marks : 40

**PART – A
Short Answer**

Answer **all** questions :

(6×1=6)

1. What are the operations used in stack ? Define.
2. What is a Linked Lists ?
3. Write down the minimum number of nodes in a Binary Tree.
4. What do you mean by FIFO ?
5. Define Directed Acyclic Graph.
6. Define Big O notation.

**PART – B
Short Essay**

Answer **any 6** questions :

(6×2=12)

7. What are the types of Data Structures ?
8. How do we represent a linked list in memory ?
9. Define Binary Search Tree.
10. Briefly explain Heap Sort.
11. How do we insert an element in to a BST ?

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12. Define Abstract Data Types.
13. Explain Selection Sort.
14. Write down the properties of a good algorithm.

PART – C
Essay

Answer **any 4** questions :

(4×3=12)

15. Convert the following expression to postfix and prefix :
 $A + B / C - (D * E) / F - G.$
16. Write down the algorithm for array insertion and deletion.
17. Compare BFS and DFS.
18. Differentiate Algorithms and Pseudo Code with example.
19. Write down the algorithm for linked list deletion.
20. Explain Queue operations.

PART – D
Long Essay

Answer **any 2** questions :

(2×5=10)

21. Explain postfix evaluation algorithm with example.
 22. Compare Bubble sort and Selection sort with example.
 23. What are the conditions for deletion of a node from a BST ? Explain.
 24. Write down Huffman Algorithm.
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