

D3BCA1801 (S4)

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Reg. No.....

Name:

SECOND SEMESTER BCA DEGREE EXAMINATION, NOVEMBER 2023

(Supplementary 2018 Admission)

BCA

CBCA3B04T- DATA STRUCTURE USING C

Time: 3 hours

Maximum Marks: 80

Answer all questions. Each carries 1 mark

1. Name any two primitive data types?
2. What you mean by Worst time complexity?
3. Define linear array?
4. Name the data structure used for Quick Sort operation?
5. What is sparse matrix?
6. What you mean by” Underflow “condition in data structure?
7. What you mean by pattern matching?
8. What is full binary tree?
9. What is Stack?
10. What you mean by two way list?

(10 x 1=10 Marks)

Answer all questions. Each carries 2 marks

11. What are the different operations performed on Data Structure?
12. What are advantages of Circular Queue over Linear Queue?
13. What is parallel array?
14. Write function for linear Search method?
15. What is priority Queue?
16. What you mean by Expression tree?
17. Compare Polish and reverse polish notation
18. With example explain mid Square method? ?

(8x2=16 Marks)

Answer any 6 questions. Each carries 4 marks

19. Briefly explain space complexity in detail?
20. What is linked list? What are the different types of linked list with example?
21. Write a C program to count the number of nodes in singly linked list?
22. Explain any one application od stack with example?
23. Write an algorithm to delete node from binary search tree?
24. Explain binary search with example?
25. What is circular Queue? Write an algorithm for insert operation in Circular Queue
26. Compare Tree and Binary tree with example?
27. Illustrate with example how directed graph can be represented using adjacency matrix?

(6x4=24 Marks)

(PTO)

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Answer any 3 questions. Each carries 10 marks

28. Briefly explain linear data structure in detail?
29. Write C function for singly linked list
 - a) insert node at the beginning
 - b) insert a node at the end
 - c) inserting node from intermediate position
30. Write C Program to represent Stack operation using Linked list
31. What is binary search tree? Explain the different traversal operations on binary search tree?
32. What is hashing .Briefly explain different hashing function with example

(3x10=30 Marks)