2011000304020081
EXAMINATION FEBRUARY-MARCH 2024
BACHELOR OF SCIENCE (FOURTH SEMESTER)
COMPUTER SCIENCE-III
CS-401-DATA STRUCTURE USSING C++

[**Time: As Per Schedule]** **[Max. Marks: 50]**

Instructions:
1. Fill up strictly the following details on your answer book
   a. Name of the Examination : **BACHELOR OF SCIENCE (FOURTH SEMESTER)**
   b. Name of the Subject : **COMPUTER SCIENCE-III (CS-401-DATA STRUCTURE USSING C++)**
   c. Subject Code No : **2011000304020081**
2. Sketch neat and labelled diagram wherever necessary.
3. Figures to the right indicate full marks of the question.
4. All questions are compulsory.

Seat No:

Student's Signature

Q.1 Answer the following: (Any Seven) **14**

1) Define data structure and its types.

2) What is difference between singly linked list and double linked list?

3) What will be the position of front and rear if circular queue is full?

4) What are advantages of linked list over array?

5) What do you mean by Best Case in algorithm?

6) What do you mean by PEEP and POP in case of Stack?

7) Write an algorithm to display elements of stack.

8) Convert infix to postfix: A + B*C/D-F+A^E

Q.2 Answer the following: (Any Two) **12**

1) What is Recursion? Write an algorithm to find factorial of number using recursion.

2) Differentiate structure and union with example.

3) Write about evaluation of postfix expression.

Q.3 Answer the following: (Any Two) **12**

1) What is tree? Explain all tree traversal methods.

2) Describe the concept of singly link list. Write an algorithm to perform delete and display node of singly link list.

3) What is D-queue? Write an algorithm to insert and delete element from output restricted-queue.

Q.4 Write Short Note on the following: (Any Three) **12**

1) Priority Queue.

2) Selection Sort.

3) Array.

4) Binary search Tree.

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