BACHELOR OF TECHNOLOGY (CBCS - 2023)
B. Tech. Sem-II Computer Science & Engineering : WINTER: 2025
SUBJECT: LINEAR DATA STRUCTURES

Day : Tuesday
Date : 02/12/2025

W-27697-2025

Time : 10:00 AM-01:00 PM
Max. Marks : 60

N.B.

1) All questions are **COMPULSORY.**
2) Figures to the **RIGHT** indicate **FULL** marks.
3) Assume suitable data **WHEREVER** necessary.

Q.1 Write a menu driven program to display following operations on array **(10)**
i) Create ii) Search
iii) Insert iv) Display

OR

Q.1 Explain importance e of time complexity and space complexity of an algorithm with suitable example. **(10)**

Q.2 What is linked list? Write and explain the algorithm for create and insert operations in doubly linked list with example. **(10)**

OR

Q.2 What is link list? Explain its type with suitable diagram. **(10)**

Q.3 Write a function called 'Push' that takes two parameters: an integer valuable and a stack into which it would push this element and returns a 1 or 0 to show success of addition or failure. **(10)**

OR

Q.3 Write the prefix and postfix form for: A+B*(C-D)/(E-F) using stack. **(10)**

Q.4 What is Queue? Explain basic operations of queue. **(10)**

OR

Q.4 Explain Priority Queue with example? **(10)**

Q.5 What are the advantages and disadvantages of various collision resolution strategies? **(10)**

OR

Q.5 Write an algorithm to implement selection sort with 24, 36, 74, 18, 5. **(10)**

Q.6 Explain different modes of opening a file in C using fopen () functions. Also write a C program to copy content of a file to another file. **(10)**

OR

Q.6 Explain basic file organization in detail. **(10)**

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