

BACHELOR OF TECHNOLOGY (CBCS) (2021-COURSE)
B. Tech. Sem - III COMPUTER SCIENCE & ENGINEERING AI&ML : WINTER :
2023
SUBJECT : DATA STRUCTURES

Day : Thursday

Date : 7/12/2023

W-23937-2023

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, if necessary.

Q.1 What is abstract data type? Explain the various operations of the ADT with (10) examples.

OR

Write pseudo code for addition of two matrices and explain it.

Q.2 What are the draw backs of single linked list? Write and explain the algorithm (10) for search and modify operations in doubly linked list with example.

OR

What is linked list? Write and explain the algorithm for create, insertion and traverse operations in doubly linked list with example.

Q.3 What is Stack? Explain all its operation using suitable example. (10)

OR

How to implement Stack using Link List describe using suitable example.

Q.4 What is priority queue? What are the applications for priority queue? (10)

OR

What is Circular Queue? Explain Enqueue and Queue operation in Data Structure.

Q.5 Explain Liner search algorithm in detail. (10)

OR

How binary search algorithm is beneficiary than Linear? Justify.

Q.6 What is File? Explain File Operation in detail. (10)

OR

Explain File Access Mechanism in detail.

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