BACHELOR OF TECHNOLOGY (CBCS - 2023)

B. Tech. Sem-II COMPUTER SCIENCE & ENGINEERING : SUMMER : 2024

SUBJECT: LINEAR DATA STRUCTURES

Day : Monday
Date : 03/06/2024

S-27697-2024

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 Explain the Asymptotic notation Big O, Omega and Theta with suitable example. **(10)**

OR

Q.1 Explain 1-D array with Example. **(10)**

Q.2 Explain the deletion operation from a linked list at **(10)**
i) Beginning ii) After a node iii) End

OR

Q.2 Explain the circular linked list in detail. **(10)**

Q.3 Write a program to implement a stack using array. **(10)**

OR

Q.3 What is stack? Write the algorithm for converting infix expression to postfix (polish) expression? Convert A+B*(C-D)/(P-R) **(10)**

Q.4 What are the limitations of queue? Explain the algorithms for various operations of circular queue. **(10)**

OR

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

Q.5 Discuss the common collision resolution strategies used in closed hashing system. **(10)**

OR

Q.5 Write a procedure for sorting a given list of elements using Quick sort method. **(10)**
42, 23, 74, 11, 65, 58, 94, 36, 99, 87.

Q.6 Explain any 6 functions used for file handling. **(10)**

OR

Q.6 Explain Sequential, Relative, and Indexed sequential file organization in detail. **(10)**

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