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DCCA103

Reg. No.

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I Semester B.C.A (Theory) Degree Examination, December/January-2025/26

COMPUTER APPLICATIONS

Data Structure

(NEP Scheme (Repeaters))

Time : 2½ Hours

Instructions to Candidates:

Answer All the Sections.



Maximum Marks : 60

SECTION - A

Answer any Four questions. Each question carries Two marks.

(4×2=8)

1. Define Data Structures.
2. What is an array? Mention types of Arrays.
3. Define Linked list.
4. What is Stack? Give example.
5. What is Recursion?
6. Define Hashing.

SECTION - B

Answer any Four questions. Each question carries Five marks.

(4×5=20)

7. Explain Asymptotic notation.
8. Explain Sparse matrix with an example.
9. Explain merge sorting. With example.
10. Write an Algorithm for BST method.
11. Define Divide and conquer method with an example.
12. What is BFS? Explain with example.

[P.T.O.]





(2)
SECTION - C

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Answer any Four questions. Each question carries Eight marks.

(4×8=32)

13. Write a program to implement circular queues using array
 14. Explain singly linked list in detail.
 15. Write DFS Algorithm and explain in detail.
 16. Discuss Stack operation in details. With an example.
 17. Write a program to solve tower of Hanoi problem using Recursion.
 18. Explain Hashing Techniques and techniques for collision Resolution.
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