Batch-2024-2026

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MASTER OF SCIENCE (M.Sc) in COMPUTER APPLICATIONS
EXAMINATION : DECEMBER - 2025
SEMESTER - I
Sub.: Advanced C Programming and Data Structures (MSC24 -101)

Date : 24/12/2025 **Total Marks : 60** **Time: 10.00 am to 12.30 pm**

Instruction:

1. *All questions are compulsory unless and otherwise stated.*
2. *Bold figures to the right of every question are the maximum marks for that question.*
3. *Candidates are advised to attempt questions in order.*
4. *Answers written illegibly are likely to be marked zero.*
5. *Use of scientific calculators, Log tables, Mollier Charts is allowed.*
6. *Draw neat and labelled diagram wherever necessary.*

Q. 1. Answer the following in 2-3 lines. (Any 5) (10)

1. Define static data structures.
2. What are the applications of Linked List?
3. Define the term array.
4. What is an Expression Tree?
5. Define the term Call by value.
6. What is Binary tree?
7. What do you mean by recursive function?

Q. 2. Answer the following in short. (Any 4) (20)

1. Which are different Operations on stack? Explain in detail.
2. What is Circular Queue? Explain with suitable example.
3. What is pointer? Explain Array of pointers.
4. Define queue. Explain different operations performed on queue.
5. Write a note on graph representation.
6. Explain call by reference with example.

Q. 3. Answer the following in detail. (Any 3) (30)

1. Define Graph. Explain different applications of graph with example.
2. Explain how stack is used in recursion with suitable example.
3. Explain Insertion sort with algorithm.
4. Explain the procedure to add node at the beginning, at the end in the Doubly linked List.
5. Write an algorithm to implement BFS.