

TILAK MAHARASHTRA VIDYAPEETH, PUNE
MASTER OF COMPUTER APPLICATIONS
EXAMINATION: DECEMBER - 2024
SEMESTER - I

Sub: Advanced C Programming and Data Structures (MCA- 101-22)

Date: 26/12/2024

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

1. What is matrix?
2. What is the structure of node in singly linked list?
3. What is pointer? How pointers are declared?
4. Define algorithm.
5. What is data structure?
6. In which header file strings functions are available?
7. What is use of malloc () function?

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

1. Write a short note on binary search.
2. Define structure, structure elements, array of structure
3. Explain push and pop operations on stack.
4. Write the steps to create binary tree.
5. Write the advantages and disadvantages of functions
6. What is circular queue? Explain the advantages of circular queue over normal queue.

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

1. Write detailed note on storage classes in C.
2. Explain the sparse matrix in details.
3. Write a program to find factorial of given number using recursive function.
4. Write a Algorithm to convert an infix Expression to postfix expression
5. Write a program to swap the values using call by value
