

Time : 3 Hrs

Marks: 80

Please check whether you have got the right question paper.

N.B:

1. Question No.1 is compulsory
2. Answer any three out of remaining five questions

- Q. 1 a. What is an algorithm? Explain properties of an algorithm. 04
- b. What are different data types in C? 04
- c. Compare break and continue. 04
- d. Explain any two functions from math.h 04
- e. Define pointers in C? Explain the terms: address operator and pointer variables. 04
- Q. 2 a. Write a program to find largest and smallest element in an array. 10
- b. What is Recursion? Write a program to display n terms in Fibonacci series using recursion. 10
- Q. 3 a. Write user defined function to reverse a given string. 05
- b. Write a program to print following pattern. 05
- ```

 1
 1 2
 1 2 3
 1 2 3 4

```
- c. Explain the concept of call by value and call by reference with example. 10
- Q. 4 a. What is use of storage classes? Explain different storage classes in C. 10
- b. Write a program to calculate sum of n terms in following series. 10
- $$1 + x/3! - x^2/5! + x^3/7! - x^4/9! + \dots$$
- Q. 5 a. Write a program to take nxn matrix as input and display addition of column elements of matrix. 10
- b. Write the output of following program segment 06
- |                                                                                                         |                                                                                                          |
|---------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| <p>A. main()</p> <pre> {   int i;   int z=8;   i!=z&gt;10;   printf("i=%d",i); }                 </pre> | <p>B. main()</p> <pre> {   int x=9,y=2;   float c;   c=x/y;   printf("\n%f",c); }                 </pre> |
|---------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
- c. Explain the ternary operator in C. 04

- Q. 6 a. Compare structure and union. Write a program to create structure for storing 10 students details such as name, roll number and marks. Display the student details in ascending order of marks. 10
- b. Explain file handling in C with respect to the various modes for opening files, read and write operation. 10

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