

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
A.

```
main()
{
    int i;
    int z=8;
    i=!z>10;
    printf("i=%d",i);
}
```


B.

```
main()
{
    int x=9,y=2;
    float c;
    c=x/y;
    printf("\n%f",c);
}
```
- 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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