

MCA (Revised)
Term-End Examination
December, 2009

**MCS-011 : PROBLEM SOLVING AND
 PROGRAMMING**

Time : 3 hours

Maximum Marks : 100

(Weightage 75%)

Note : Question Number 1 is compulsory. Answer any three question from the rest.

1. (a) Develop an algorithm, and write a program to print the Fibonacci series upto a given number using recursion. 10
- (b) What do you understand by function prototype ? Write a program in 'C' to calculate the GCD of three numbers using the function prototype. 10
- (c) List and explain any 5 reserved words of 'C' language. 10
- (d) Differentiate between call by value and call by reference methods of parameters passing to a function giving an example of each. 5
- (e) What will be the output of following 'C' programme ? 5

```

main ()
{
    int i = 1, j = 1;
    for (;;)
    {
        if (i > 5)
            break;
        else
            j + = 1;
        printf ("In %d", j)
        i + = j;
    }
}

```

2. (a) What do you mean by scope of a variable ? 5
Differentiate between Global and Local variables giving an example of each.
- (b) Explain the syntax of switch case statement 5
in 'C' language. Also compare the performance of switch case with if else statement.
- (c) Draw a flowchart and write a program in 10
'C' to convert a decimal number to its octal equivalent.

3. (a) What are the precautions that must be taken care to use macros in 'C' ? Define a macro to find the factorial of a given number n ? 10
- (b) Write a program in 'C' to find whether a given number is Armstrong number or not. 10
4. (a) Write program in 'C' for the multiplication of two square matrices. 10
- (b) What is pointer variable ? How is a pointer variable declared ? How is the address of a pointer variable determined ? How pointer can be used to pass an entire array to a function in C ? Explain with the help of an example. 10
5. (a) Explain fprintf () and fscanf () statements with an example of each. 10
- (b) Write a program in 'C' : 10
- (i) To reverse a string
- (ii) To copy str1 to str2 without the use of strcpy function.

- o O o -