# MCA (Revised)

09461

## Term-End Examination

## December, 2011

## MCS-011 : PROBLEM SOLVING AND PROGRAMMING

*Time : 3 hours*                          *Maximum Marks : 100*

(Weightage 75%)

*Note :*   *Question number 1 is compulsory. Answer any three questions from the rest.*

1.   (a)   What are different basic data types in C ?   **10**
          Explain the need of different numeric data
          types with example of each.

     (b)   Given the sizes of three different sides, write   **5**
          a C program to find whether a triangle can
          be formed or not.

     (c)   What are the logical operators in C ?   **5**
          Explain how they can be used for
          constructing the logical expressions ?

     (d)   What is an array ? Write a C program using   **5**
          array to find largest and smallest number
          from a list of 100 given numbers.

(e) Write a C program using *switch* to determine, whether the root of a quadratic equation is real or not.     5

(f) Differentiate between call by value and call by reference using example program.     10

2. (a) Write a function subs(s, n) in C, which prints the first n–characters of the string s provided n is less than the length of the string.     5

(b) Write a program in C to display the string "ARRAY" in the following format :     5

A

AR

ARR

ARRA

ARRAY

(c) What is union ? How it is different from structure ? Explain. How a union is declared in C ? Also write a program in C to show use of union.     10

3. (a) Explain the differences between static and auto variables, with example of each.     5·

(b) Write a C program using pointer to reverse a given string.     10

(c) Explain the syntax of do–while statement. 5
Also differentiate do–while from while
statement.

4. (a) What is recursion ? Write a C program 10
using recursion to print the Fibonacci series
upto a given number.

(b) Write a C program using array to find the 10
average price of apples and oranges, in ten
cities in the country.

5. (a) Write a C program to store string "This is 10
my file" in a file.

(b) What is pointer to pointer ? Explain need 10
of pointer to pointer with an example. Also
show how address of variable in this case is
calculated/determined ?

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