Code No. 9603

FACULTY OF INFORMATICS

M.C.A. I Year I – Semester (Main) Examination, February 2015

Subject: Computer Programming and Problem Solving

Time: 3 Hours **Max.Marks: 80**

Note: Answer one question from each unit. All questions carry equal marks.

Unit – I

1. (a) Explain the concept of call-by-reference in 'C' with an example.
   (b) Write a program that contains statements that output the value of six variables that are defined but not initialized.

OR

2. (a) Explain all arithmetical operators used in 'C' with the help of simple programs.
   (b) Explain the control statements used in 'C'.

Unit – II

3. (a) What is recursion? Write a recursive function to calculate the factorial of a given number.
   (b) Write a program to sort the given numbers using bubble sort.

OR

4. (a) What is a pointer? Swap the two given numbers using pointers.
   (b) Explain all string manipulation functions.

Unit – III

5. (a) What is the output produced when the following statements get executed

```
Cout << "*";
Cout width (5);
Cout << 123 << "*"  << set w(5) << 123;
```

   (b) Explain (i) structure (ii) union (iii) preprocessor directives with examples.

OR

6. (a) Write a 'C' program to print first fifteen Fibonacci series.
   (b) Discuss the use of member functions get and put.

Unit – IV

7. (a) Write a program to explain overloading of '*'.
   (b) Write a simple program using inline function to generate cube of an integer.

OR

8. (a) Explain function template with example.
   (b) Write a C++ program to find the length of a string.

Unit – V

9. (a) Explain multiple, multilevel inheritance with examples.
   (b) What is virtual function? Explain it with example.

OR

10. (a) Write the techniques available for exception handling.
    (b) Explain (i) Abstract classes (ii) Dynamic polymorphism.

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