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06EC661

Sixth Semester B.E. Degree Examination, June 2012
Programming in C++

Time: 3 hrs. Max. Marks:100

Note: ***Answer FIVE full questions, selecting at least TWO questions from each part.***

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

PART – A

1 a. Explain enumeration data types with examples. **(04 Marks)**

b. What do mean by dynamic initialization of a variable? What is the primary difference between static and dynamic memory allocation. **(08 Marks)**

c. Write a note on #define directive and const modifier. **(04 Marks)**

d. Explain the difference between the four objects defined below:

i) int ival = 1024

ii) int *pi2 = new int (1024)

iii) int *pi = &ival

iv) int *pi3 = new int [1024]. **(04 Marks)**

2 a. What is pointer? Explain the advantages of a pointer. Indicate the difference between address operator and indirection operator. **(10 Marks)**

b. What are the basic operations performed on string. Write a program in C++ to find the length of the string using string type. **(06 Marks)**

c. Give the output of the following:

```
void main( )
{
        int  i = 4, j = -1, k = 0, w, x, y, z;
        w = i || j || k;
        x = i && j && k;
        y = i || j && k;
        z = i && j || k;
   cout <<w<<x<<y<<z;
}
```

(04 Marks)

3 a. What are bitwise operators? Explain the left shift and right shift operations with examples. **(04 Marks)**

b. Explain the various looping constrants available in C++ with their syntax and examples. **(06 Marks)**

c. Explain with the syntax the components of the switch statements. Write a program in C++ to count the number of vowels in a given string. **(10 Marks)**

4 a. Explain the call by value and call by reference parameter passing method with an example of each. **(10 Marks)**

b. Write a recursive function to find factorial of n numbers. **(05 Marks)**

c. What is a function? Mention the advantages of using functions. **(05 Marks)**

PART – B

5 a. What is an exception? With the help of example explain how the try block and catch block works. **(10 Marks)**

b. Write a C++ program to illustrate the process of catching all uncaught exceptions through in a try block. **(10 Marks)**

6 a. Explain parameterized constructors. Develop a C++ program to implement parameterized constructor. **(10 Marks)**

b. Explain the following features of OOP's:

i) Classes
ii) Objects
iii) Polymorphism
iv) Inheritance
v) Encapsulation. **(10 Marks)**

7 a. What is an operator over loading? Write a C++ program to add 2 complex numbers by over loading the operator '+'. **(10 Marks)**

b. Explain how an array of objects can be created and members of the objects are accessed. Give example. **(10 Marks)**

8 a. Explain single and multilevel inheritance with examples. **(10 Marks)**

b. Briefly explain public, private, protected inheritance. **(06 Marks)**

c. Write a note on base class and derived class. **(04 Marks)**

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