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06EC661

**Sixth Semester B.E. Degree Examination, December 2010**  
**Programming in C++**

Time: 3 hrs.

Max. Marks:100

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

**PART - A**

- 1 a. What are the advantages of object oriented languages over procedure oriented languages? (06 Marks)  
 b. List a few areas of application of OOP technology. (06 Marks)  
 c. What is enumerated data type? Explain. (08 Marks)
- 2 a. Write a C++ program to find the prime numbers between 200 and 500 using for loop. (06 Marks)  
 b. What are manipulators? Explain the usage of the same with an example. (06 Marks)  
 c. Name the operators which are common for C and C++. Indicate its precedence and associativity. Also mention the operators which are exclusive for C++. (08 Marks)
- 3 a. What are unconditional control statements? Explain with an example. (10 Marks)  
 b. Write a C++ recursive program to find the factorial of a number. (10 Marks)
- 4 a. Write a C++ program to swap two numbers using 'call by address' Explain the mechanism. (10 Marks)  
 b. What is inline function? Explain with an example. What are the limitations of inline functions? (10 Marks)

**PART - B**

- 5 a. What is exception handling? With an example, briefly explain try, throw and catch mechanisms in C++. (10 Marks)  
 b. What are the benefits of operator overloading? With a program, explain the concept of operator overloading with unary operator. (10 Marks)
- 6 a. Explain different types of constructors, with example. (10 Marks)  
 b. Write a C++ program to calculate the surface area and volume of a sphere using equations  $4\pi r^2$  and  $\frac{4}{3}\pi r^3$  where 'r' is the radius of the sphere using class 'sphere' and object 'mysphere' and member functions as vol() and s-area(). (10 Marks)
- 7 a. What is inheritance? Briefly explain public, private and protected inheritance, with an example. (10 Marks)  
 b. What is multiple inheritance? Explain with one C++ program. (10 Marks)
- 8 Write short notes on the following :  
 a. New and delete operators. (06 Marks)  
 b. Class destructor. (07 Marks)  
 c. Friend functions. (07 Marks)

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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.

