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Second Semester MCA Degree Examination, June/July 2015
Object Oriented Programming with C++

Time: 3 hrs.

Max. Marks:100

Note: 1. Answer any FIVE full questions.**2. Each concept should be illustrated through ANSI C++ program.**

- 1 a. Explain the salient features of OOP languages. (10 Marks)
- b. What are qualifiers? Explain various qualifiers available in C++. (05 Marks)
- c. Explain how dynamic memory allocation is performed in C++. (05 Marks)
- 2 a. Explain the following :
 - i) Generic functions (10 Marks)
 - ii) Static members. (05 Marks)
- b. What is function overloading? Illustrate with an example. (05 Marks)
- c. Illustrate the application of reference type variables in C++. (05 Marks)
- 3 a. What is operator overloading? What are the advantages of it? Demonstrate the overloading of postfix ++ operator using member functions and friend functions. (10 Marks)
- b. Explain the relationship between inline functions and member function definitions. (05 Marks)
- c. Explain how pointers are used with class members. (05 Marks)
- 4 a. Explain the following with reference to multilevel inheritance
 - i) Execution of constructors and destructors (10 Marks)
 - ii) Passing parameters to base class constructors. (05 Marks)
- b. Explain the visibility of inherited members based on private, public and protected derivations. (05 Marks)
- c. Explain the advantage of inheritance through an example. (05 Marks)
- 5 a. What are the ambiguities that arise in multiple inheritance? How do you overcome them? Explain with example. (10 Marks)
- b. What are pure virtual functions? Illustrate the application of pure virtual functions with an example. (10 Marks)
- 6 a. Explain the following :
 - i) Virtual attribute is inherited (10 Marks)
 - ii) Virtual functions are hierarchical. (05 Marks)
- b. Explain the following functions :
 - i) seekp()
 - ii) tellp()
 - iii) setw()
 - iv) setprecision()
 - v) setf(). (10 Marks)
- 7 a. What is exception handling? Explain the facilities that support exception handling in C++. (10 Marks)
- b. Explain the usage of vectors, lists and maps in STL. (10 Marks)
- 8 Write short note on the following :
 - a. Default arguments
 - b. Copy constructor
 - c. Scope resolution operator
 - d. "this" pointer. (20 Marks)