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**Third Semester B.E. Degree Examination, Dec.2018/Jan.2019**  
**Object Oriented Programming with C++**

Time: 3 hrs.

Max. Marks:100

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

**PART - A**

- 1 a. Mention various parameter passing techniques supported by C++. Explain pass by reference with an example. (08 Marks)
- b. What is an inline function? Explain with an example. List its advantages and disadvantages. (06 Marks)
- c. What is function overloading? Write a C++ program to find area of circle and area of square using function overloading. (06 Marks)
- 2 a. Explain with a C++ program, to demonstrate how objects are passed as arguments to a function. (06 Marks)
- b. What are constructions and destructors? How is parametrized constructor is different from zero parameterized constructor. (06 Marks)
- c. Explain with example : (i) Class and objects (ii) Static data members and static member functions. (08 Marks)
- 3 a. What are friend functions? What are the advantages of using friend functions? Write a C++ program to overload post increment and pre-decrement operators, using friend functions. (10 Marks)
- b. What are generic functions? What are its advantages? Explain with an example. (05 Marks)
- c. What is the benefit of copy constructor? Explain with an example. (05 Marks)
- 4 a. What is inheritance? Write a note on base class and derived class? How to inherit a base class as protected? (10 Marks)
- b. With an suitable example, explain single inheritance multiple inheritance and multilevel inheritance. (10 Marks)

**PART - B**

- 5 a. With a C++ program, illustrate the order of executing of constructors and destructors in inheritance. (08 Marks)
- b. Explain granting Access with an example with respect to inheritance. (06 Marks)
- c. What is meant by virtual base class? Why is it required? Explain with example. (06 Marks)
- 6 a. Explain the mechanism for calling a virtual function through a base class reference with an example. (10 Marks)
- b. Differentiate Early and Late binding. (04 Marks)
- c. Write a C++ program to find the area of rectangle and triangle using abstract classes. (06 Marks)
- 7 a. Write a program to show the use of try, catch and throw construct. (08 Marks)
- b. Write a note on containers, lists and maps. (12 Marks)
- 8 Write short notes on:
  - a. Scope resolution operator.
  - b. setf ( ) and unsetf ( ) functions.
  - c. Pure virtual function.
  - d. Vectors. (20 Marks)

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