# Third Semester B.E. Degree Examination, Dec.2019/Jan.2020

## Object Oriented Programming with 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. Differentiate between object oriented programming and procedure oriented programming.
   **(10 Marks)**
   b. Define objects. Create a class CAR with following features: Name, Color, Price. Display the names of all cars costing more than 5 lakhs. **(10 Marks)**

2  a. How you can make member functions inline? Give an example. **(06 Marks)**
   b. Write a C++ program to count the number of objects of a certain class. **(06 Marks)**
   c. How non member functions can access the member of a class? Explain with examples.
   **(08 Marks)**

3  a. Define a suitable parameterized constructor with default values for class DISTANCE with data members feet and inches. **(06 Marks)**
   b. Write a program to add and multiply operations using overloaded + and * operators.
   **(08 Marks)**
   c. Explain 'new' and 'delete' operators with example. **(06 Marks)**

4  a. What is the ambiguity that might arise in multiple inheritances? How to overcome this? Explain with an example. **(06 Marks)**
   b. What is inheritance? Explain the different types of inheritance possible in C++. **(14 Marks)**

## PART – B

5  a. How to pass arguments to a constructor in a base class? **(06 Marks)**
   b. What is protected in C++? How protected access specifier behave in a single class?**(08 Marks)**
   c. What is function overriding? **(06 Marks)**

6  a. What are the differences between virtual functions and pure virtual functions? **(06 Marks)**
   b. What is an abstract base class? Why we cannot have virtual constructors? **(06 Marks)**
   c. What are the differences between early binding and late binding? **(08 Marks)**

7  a. What are manipulators? Explain any two manipulators with examples. **(10 Marks)**
   b. Explain the functions:
   (i) seekp( )   (ii) tellp( )   (iii) seekg( )   (iv) read( )   (v) write( ) **(10 Marks)**

8  a. How the base class exceptions and derived class exceptions are handled? Explain with examples. **(10 Marks)**
   b. Write a program to demonstrate creation and manipulation of vectors. **(10 Marks)**

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