MCA (First Semester)
Object Oriented Programming Language

Time: 3 hours   Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
         2. Answer **ALL** the question in **Part-A**
         3. Answer any **THREE** Questions from **Part-B**
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PART –A

1.   a)   Define variable and reference variable?   (2M)
  b)   What are manipulators? Explain predefined manipulators in C++?   (5M)
  c)   What is inline function? (3M)
  d)   What is the use of declaring a class as a friend of another?   (4M)
  e)   What are destructors? When they are called? What is their utility?   (4M)
  f)   Define function overriding? Compare it with function overloading?   (4M)

PART –B

2.   Write a C++ program illustrating Queue data structure? Ensure your program (16M)
          contains special member functions like constructors, copy constructors and Destructors
          to create and destroy Queue objects?

3.   Write about IOS format functions with suitable examples? (16M)

4.   a) What is a friend function? Discuss its pros and cons with respective to normal (8M)
          member functions?
  b)   Write a C++ program illustrating Exception overloading?   (8M)

5.   Briefly explain different types of container classes with suitable examples?
          (16M)

6.   a)   What is inheritance? How does it enable code reusability, explain with an
          (8M) example?
  b)   What are virtual functions? Describe the rules for declaring virtual functions?
          (8M)

7.   a)   Write a C++ program illustrating bubble sort using function templates? (8M)   b)   Write a C++ program illustrating overloading of templates functions? (8M)