

## JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST-3 EXAMINATION- JUNE -2016

B.Tech IVth Semester

COURSE CODE: 10B11CI311

MAX. MARKS: 35

COURSE NAME: Object Oriented Programming

COURSE CREDITS: 04

MAX. TIME: 2 HRS

*Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.*

- 1) Answer the following questions briefly [2X5=10 Marks]
  - a. What are conversion functions? Why do you need them?
  - b. Why do you need Template specialization?
  - c. List down the operators which you cannot overload.
  - d. What is the difference between abstract class and derived class?
  - e. What is virtual member function in C++? Explain with example.
  
- 2) Define a simple C++ class template *myobj*, parameterized by a single type, such that the following code will work: [2 Marks]

```
myobj<int> s1, s2;  
myobj<int> s3 = sum(s1, s2, s2);
```
  
- 3) Write a class which contains a method called *getNumberOfInstances*. This method should return the number of instances of the class. [2 Marks]
  
- 4) What are the various relationships used in class diagrams? What is the difference between composition and aggregation? Explain everything with example and also show the representations. [6 Marks]
  
- 5) Two classes one is *Civil\_Time* and Another is *Railway\_Time*. Enter hours and minutes in *Railway* time (24 hour format) and display the time in *Civil* time(12 hour format with a.m. and p.m.) using one class type to another class type conversion. [5 Marks]
  
- 6) You have been given a task to build an application like **Book My Show** used for booking movie tickets. [5X2=10 Marks]
  - a. Make a use case diagram for the given application.
  - b. Make a class diagram for it.