JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST-1 EXAMINATION- FEBRUARY, 2019

B. Tech VI Semester

COURSE CODE: 10B11CI614
COURSE NAME: Object-Oriented Systems and Programming
COURSE CREDITS: 4

MAX. MARKS: 15

MAX. TIME: 1 Hour

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

1. Define a class named *Movie*. The private data members of the class include *title*, *year*, and *name of the director*. Include three public functions: *void setTitle(char[ ])*, *void setYear(int)*, and *void setDirector(char[ ])*. Include another function that displays all the information about a movie. Write a *main()* function that declares a movie object named *MyFavouriteMovie* and call all the member functions of the class. (CO-1) **[3 marks]**

2. Define a *Date* class that contains three integer data members: *month*, *day*, and *year*. Include a default constructor, a parameterized constructor (with three parameters) and a copy constructor. Assigns the date 1/1/2000 to any new object that does not receive arguments. Also include a function that displays the *Date* object. In the *main()* function define three objects to call the default constructor, the three argument constructor, and the copy constructor, respectively. Now, invoke the *display()* method to display the values of each of the three objects. (CO-1) **[4 marks]**

3. Create a class named *MusicalComposition* that contains fields for *title*, *composer*, and *year written*. The class includes a default constructor, a parameterized constructor, and functions *enter()* and *display()* to enter and display the data fields of the class, respectively. The above class is being inherited by a subclass *NationalAnthem*, which contains an additional data field to hold the name of the *anthem's nation*. The subclass *NationalAnthem* also contains a default constructor and a parameterized constructor and overrides the *enter()* and *display()* function. The default and the parameterized constructors of the *NationalAnthem* class call the default and the parameterized constructors of the *MusicComposition* class, respectively. Write a *main()* function that instantiates objects of *NationalAnthem* class and invokes the methods *enter()* and *display()*. (CO-2) **[5 marks]**

4. Differentiate between the following terms in 2-4 statements:
   i. Constructor and Destructor   (CO-1)
   ii. Multiple inheritance and Multilevel inheritance   (CO-2)
   iii. Friend function and Static Function   (CO-1) **[3 marks]**