COURSE CODE: 10B11CI614   MAX. MARKS: 15
COURSE NAME: Object-Oriented Systems and Programming
COURSE CREDITS: 04   MAX. TIME: 1 HR

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

1. Write a class definition for a *Date* class that contains three private integer data members: month, day, and year. Create a static member to hold a slash (-). Create two public member functions, *setDate()* and *showDate()*. You will use the static slash in the *showDate()* function. The setDate() function accepts three integer arguments and passes them on to three private functions: *setMonth()*, *setDay()*, and *setYear()*. If month is greater than 12, then set it to 12. If a day is greater than 31, then set it to 31. Write a *main()* function that instantiates several objects of the *Date* class and tests the class functions.   **[5 marks]**

2. Create a *Person* class that includes fields for last name, first name, and zip code. Include a constructor that initializes *last name, first name, and zip code* to "*X*" if no arguments are supplied. Also include a display function. Write a *main()* function that instantiates and displays two *Person* objects: one that uses the default values, and one for which you supply your own values.   **[3 marks]**

3. Imagine a publishing company that markets both books and audio-cassette version of its works. Create a class *Publication* that stores the title (a string) and price (type float) of a publication. From this class derive two classes: *Book*, which adds a page count and *Tape*, which adds playing time in minutes. These classes should have *getdata()* function to get its data from the user and the *putdata()* function to display its data. Write a *main()* program to test the book and tape classes by creating instances of them, asking the user to fill in their data with *getdata()* and displaying the data with *putdata()*.   **[4 marks]**

4. Differentiate between the following terms:
   i.   Multiple inheritance and Multiple inheritance
   ii.   Static and const functions
   iii.   Function overloading and Function overriding   **[3×1 =3 marks]**