

G.B. Pant Institute of Engineering and Technology, Pauri Garhwal
B. Tech: IV Semester
Electronics and Communication Engineering
Object-Oriented Programming (TES-241)

Class Test II (Date - 20/05/2022 / Time- 11:00 AM to 12:00 PM) JSR

Time: 1 Hour

M.M.: 15

Note: Attempt ALL questions. Be precise in your answers.

Q.No.1. Attempt any two from the followings: (2.5 x 2 = 5) [CO3, CO4, CO5]

- a) How do we achieve function overloading? On what basis, the compiler distinguishes between a set of overloaded functions having the same name? Explain with an example.
- b) Define a class called **time** that has separate int data members for **hours**, **minutes** and **seconds**. One constructor should initialize these data to 0 and another should initialize them to fixed values. Write a member function and a friend function to display time in the format **12:28:34**. Another member function should add two objects of type **time** passed as arguments.
- c) What do you mean by memory allocation for objects? Discuss in detail.

Q.No.2. Attempt any two from the followings: (2.5 x 2 = 5) [[CO3, CO4, CO5]

- a) Imagine a publishing company that markets both book and audiocassette versions of its works. Create a class **publication** that stores the **title** (a string) and **price** (type float) of publication. From this class derive two classes: **book**, which adds a **page count** (type int); and **tape**, which adds a playing time in **minutes** (type float). Each of these three classes should have a **getdata ()** function to get its data from the user at the keyboard and a **putdata ()** function to display its data. Write a **main ()** program to test the **book** and **tape** classes by creating instance of them, asking the user to fill in data with **getdata ()** and then displaying data with **putdata ()**. Explain the type of inheritance implemented.
- b) Write a code segment to demonstrate calling of a constructor implicitly and explicitly. Differentiate between default constructor and default argument constructor with suitable example.
- c) "An operator is overloaded with the help of a special function called operator function." Discuss.

Q.No.3. State whether the following statements are TRUE/FALSE: (1x5=5) [[CO3, CO4]

- a) When using an overloaded binary operator, the left operand is implicitly passed to the member function.
- b) Friend function have access to only public members of a class.
- c) When a function is declared inline the compiler replaces the function call with the respective function code.
- d) The objects are always destroyed in the reverse order of their creation.
- e) A protected member inherited in public mode becomes protected, whereas inherited in private mode becomes private in the derived class.

*****All The Best*****