

# OOP LAB SESSIONAL TEST

Answer any one question from set A and question 1 is compulsory

1. Write a program in C++ that creates a class parcel containing private member variable weight (of the parcel), protected variable shipping\_cost, write a parameterized constructor that initializes these variables. Write a member function with name Cal\_shipping () to calculate the shipping cost according to formula Rs. 10/Kg. Create a class called Box, which is publicly inheriting Parcel class. It should have private member variable no\_of\_boxes which will be initialized using a constructor based on the weight data member of parcel class( if weight exceeds 30 kg then no.of boxes requires 2 and if exceeds 50 kg no.of boxes required 5, otherwise 1 box required). Override class Cal\_shipping () function defined in the class Parcel and add Rs. 30 to the shipping\_cost variable if the volume of the box exceeds 3 units. Display all the information with the final shipping cost.

## SET A

1. Write a program in C++ that creates a class vect, which contains a pointer to an integer (int \*ptr) and an integer (size). The integer pointer (ptr) will point to a dynamic array of integers and size represents the total capacity of that dynamic array. The class vect should behave as an array with practically unlimited entries.

a) Write a default constructor that will initialize integer pointer (ptr) to NULL and integer variable (size) to zero.

b) Write a parameterized constructor that will initialize integer variable (size) to a value passed as parameter. Initialize the integer pointer (ptr) to a dynamic array of size that equals to the parameter that is passed to constructor.

2. Write a program to declare three classes a1, a2, a3. The classes have private data member variable of string type. Assign the first name and surname of a student to member variable of class a1 and a2 respectively. Perform concatenation of two strings using overloading of + operator and store it to data member variable of class a3. Print the full name to the output screen using member function.

## Instruction

- Your program name, class name and variable name must be followed by your last two digit of your roll number
- Program writing and upload in Google class room is 9:55am