**Everest Engineering College**

**Sanepa-2, Lalitpur**

**Date of distribution:……….**

**Date of submission:………..**

**Subject: Object Oriented Programming in C++**

**Lab-2**

**Title: Class and Object**

**Objective**:

* To strengthen problem solving ability by using the characteristics of an object-oriented

approach.

* To teach the student to implement object oriented concepts
* To be familiar with structure and analyze how class addressed the shortcoming of structure

**Theory:**

* Introduction to object oriented Programming
* Class and object
* Defining member function inside the class and outside the class
* Data hiding
* Abstraction
* Access specifier
* array of object
* memory allocation of object
* structure vs class

**Lab exercises (please code yourself and show the output to instructor)**

1. Write a program to create a structure in C++ named hospital giving details about the patient admitted. Details are:

* Patient name
* Age
* Bed number
* Nature of illness
* Date of birth
* Gender
* Ward number
* Date of admission

1. Write a program to implement a class Employee having following members.

|  |  |
| --- | --- |
| **Members** | **Description** |
| **Data members** | |
| Emp\_id | Employee id |
| Name | Employee name |
| Address | Employee address |
| Salary | Employee salary |
| Department | Employee department |
| **Member function** | |
| Initialize() | Initialize information of employee |
| Display() | Display information of employee |

1. In main ( ) function create one object of class Employee and call member function to initialize and display the information of employee.
2. Demonstrate the above program in Que.no 1 by defining member function

* Inside the class
* Outside the class

1. Modify the Que.1 by creating three objects of class Employee.
2. Modify the Que.1 for 50 employees using array of object.
3. Display information for Que.no. 1.(iv) if salary of employee is greater than 55000

3. Define a class named ‘Bank Account’ to represent following members

Data members:-

* Account Number
* Name of Depositor
* Account Type
* Balance Amount

Member functions:

* Initialize members
* Deposit Amount
* Withdraw Amount
* Display Balance

4. Solve the problem given in Que.no 3 using Procedural Oriented Programming approach and then analyze how OOP is better than POP?