Everest Engineering College
Sanepa-2, Lalitpur

Date of distribution:……….
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<u>**Subject: Object Oriented Programming in C++**</u>

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

2. 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

i. In main ( ) function create one object of class Employee and call member function to initialize and display the information of employee.
ii. Demonstrate the above program in Que.no 1 by defining member function
   - Inside the class
   - Outside the class
iii. Modify the Que.1 by creating three objects of class Employee.
iv. Modify the Que.1 for 50 employees using array of object.
v. 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?