

# Everest Engineering College

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**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 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
- Encapsulation
- 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
  - Gender
  - Nature of illness
2. Modify **Que no. 1** by adding data member **Date of Birth** (*Implement concept of nested structure*)
3. Now, modify **Que no. 2** for 50 Patients. (*Implement concept of array of structure*)

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

Members	Description
<b>Data members</b>	
Emp_id	Employee id
Name	Employee name
Address	Employee address
Salary	Employee salary
Department	Employee department
<b>Member function</b>	
Initialize()	Initialize information of employee
Display()	Display information of employee

- In main ( ) function create one object of class Employee and call member function to initialize and display the information of employee.
  - Demonstrate the above program in Que.no 1 by defining member function
    - Inside the class
    - Outside the class
  - Modify the Que.1 by creating three objects of class Employee.
  - Modify the Que.1 for 50 employees using array of object.
  - Display information for Que.no. 1.(iv) if salary of employee is greater than 55000
5. 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