University of Central Punjab

**Faculty of Information Technology**

# Object Oriented Programming

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| **Lab 15** | |  |
| **Topic** | Aggregation and Composition |
| **Objective** | The basic purpose of this lab is to implement the concept of virtual functions and function overloading and Polymorphism. |
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**Instructions:**

* Indent your code.
* Comment your code.
* Use meaningful variable names.
* Plan your code carefully on a piece of paper before you implement it.
* Name of the program should be same as the task name. i.e. the first program should be Task\_1.cpp

**Students are required to work in multiple files i.e .h and .cpp**

**Task 1:**

Write a program that has two classes company and Employee. You can see company class is using employee type object (hence composition). Write down all setter and getter functions for both classes. Also implement the given header file. You are required to create a main function in order to check Employee class and Company class and call Print Info function of both using respective objects

Class Employee

Private:

char\* name;

int id;

int age;

int salary;

Class Company

Private:

char \* name;

char\*address;

Char\* PhNo;

Employee Edetail;

**Task 2:**

Write a program that has two classes Car and engine. You can see Car class is using engine type object (hence composition). Write down all setter and getter functions for both classes. Also implement the given header file. You are required to create a Car class and Engine class and call Print Info function of both using respective objects

Class Car

Private:

char\* model;

int door;

Engine engineDetails;

Class Engine

Private:

Double fuelaverage;

char \* type;

char \*fueltype;

**Task 3:**

An Employee has an address, its attributes is id and name. An Address has addressline,City and State attribute. Using parametrized constructor to initialize. Write display function that display all the values of attributes. (using aggregation)