**Department of Computer Science**

 **Semester Assignment Spring 2020**

ID : 14273

Name :Saeed Ahmad Ahmad

Department : BS(CS) 5th Semester

Subject: **Object Oriented Programming**

**Time**: 48hrs (9:00 am Monday (20th April) to 9:00 am Wednesday (22nd April))

**BS (CS,SE)** Instructor: M.Ayub Khan

There are total **3** questions in this paper.Max Marks: 30

***Note:***

***At the top of the answer sheet there must be the ID, Name and semester of the concerned Student.***

***Students must have to provide the output of their respective programs. Students have same answers or programs will be considered fail. Programs in Python or codes should be explained clearly.***

***As this paper is online so incase of any ambiguity my Whatsapp no. is 034499121116.***

**Each question carry equal marks.**

**Please answer briefly.**

Q1. What is Class and role of object in a Class, explain in detail with the help of a

 suitable program ?

**Ans**: A class is a set of instruction to build a specific type of object. It is a user-defined data type, which holds its own data members and member functions, which can be accessed and used by creating an instance of that class.

Object determines the behavior of the class. From a programming point of view, an object can be a data structure, a variable or a function. It has a memory location allocated. The object is designed as class hierarchies.

**Example:**

**import** java.util.Scanner;

//creating first class

**public** **class** ClassObject {

 **public** **static** **void** main(String[] args) {

 **int** Value;

//creating new object for second class

 Second object = **new** Second();

// output of calling object

 System.***out***.println(object.w);

 }

}

//creating second class for calling object

**class** Second{

//define a Value for output

 **int** w=89;

}

**OUTPUT**

Q2. Write a program about table printing which takes input from the user on the

 basis of OOP and explain in detail.

Ans:

**import** java.util.Scanner;

**public** **class** TablePrinting {

 **public** **static** **void** main(String[] args) {

 //Here we create an object of class

 Scanner obj = **new** Scanner(System.***in***);

 //Here we print the output of taking user input

 System.***out***.println("Enter the Value =");

 **int** x = obj.nextInt(); //Read the User input

 **for**(**int** y=1;y<=10;y++)

 {

 //Table printing of entered user

 System.***out***.println(x+"x"+y+"="+x\*y);

 }

 }

}

 **OUTPUT**



Q3. Write a program about any 2 cars which can calculate the performance of

 both of them and explain in detail.

**public** **class** Car {

 **public** **static** **void** main(String[] args) {

 //we create object of both class ferrari and fordCar

 Ferrari fer = **new** Ferrari();

 FordCar ford= **new** FordCar();

 //Here we comapare all atributes for ferrari if ferrari attributes is high

 **if**(fer.MaxSpeed>ford.MaxSpeed && fer.Engine>ford.Engine && fer.suspension>ford.Engine)

 {

 System.***out***.println("Ferrari is the fastest");

 System.***out***.println("And Ford is slower than Ferrari");

 }

 //Here we comapare all atributes for ford if ford attributes is high

 **if**(fer.MaxSpeed<ford.MaxSpeed && fer.Engine<ford.Engine && fer.suspension<ford.Engine)

 {

 System.***out***.println("Ford is the fastest");

 System.***out***.println("And Ferrari is slower than Ford");

 }

 }

}

**class** Ferrari{ //Here we add some data of first car

 **int** MaxSpeed = 251;

 **double** Engine = 2.7;

 **double** suspension = 57;

}

**class** FordCar{ //Here we add some data of Second car

 **int** MaxSpeed = 250;

 **double** Engine = 2.6;

 **double** suspenson = 56.1;

}

**OUTPUT**

