Department of Computer Science

Semester Assignment Spring 2020

Name   :Hassan Saad

ID   : 14286

Semester   : 5th

Department   : Software Engineering

Subject   : Object Oriented Programming

Instructor   : Mr. Ayub Khan

Date   : 22th.April.2020

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 blueprint from which individual objects are created. A class can have any number of methods to access the value of various kinds of methods.

An entity that has state and behavior is known as an object e.g., chair, bike, marker, pen, table, car, etc. It can be physical or logical

Example:
```java
import java.util.Scanner;

Class  FirstClass {

    public static void main(String[] args) {

         SecondClass obj = new SecondClass();

         System.out.println(obj.a);
    }
}

class SecondClass{

    int a = 678;
}
```

Q2. Write a program about table printing which takes input from the user on the basis of OOP and explain in detail.

Ans:
```java
import java.util.Scanner;

public class printing {
    public static void main(String[] args) {
        Scanner object = new Scanner(System.in);
        System.out.println("Enter the Value of table =");

        int user = object.nextInt();

        for(int x=1;x<=10;x++)
        {
            System.out.println(user*x);
        }
    }
}
```

Q3. Write a program about any 2 cars which can calculate the performance of both of them and explain in detail.

```java
public class Car {

    public static void main(String[] args) {
        Lamborghini L = new Lamborghini ();
        Bugatti     B = new Bugatti ();

        if(L.Speed>B.Speed && L.Engine>B.Engine &&
B.accelerator>L.Engine)

{
    System.out.println("Lamborghini is the fastest");
    System.out.println("And Buggati is slower than Lamborghini ");
}


if(L.Speed<B.Speed && L.Engine<B.Engine && B.accelerator< L.Engine)


{
    System.out.println("Bugatti is the fastest");
```

```java
        System.out.println("And Lamborghini is slower than Bugatti ");

            }

        }

}


class Lamborghini {
    int Speed = 432;
    double Engine = 3.5;
    double accelerator = 65;
}
class Bugatti {
    int Speed = 518;
    double Engine = 3.6;
    double accelerator = 68.1;
}
```