KLS Gogte Institute of Technology, Belagavi

Dept. of Computer Science & Engg. **I. A. Test I** **Academic Year: 2020-21**

Subject: OOPs with Java **Code:18CS34** **Max. Marks: 30**

Semester: III (A, B, C) **Date: 10/11/2020** **Duration: 1.15Hr.**

Note: Part A is compulsory (5 M)

Part B – Answer any five questions (5M each)

PART A (Compulsory) [L1,2 CO1, PO1]

1) Java is Architectural neutral because java is object oriented programming language. True/False
2) JVM stands for :

   A. Java Valuable Machine B. Java Versatile Method

   C. Java Virtual Machine D. Just-in-time Virtual Machine
3) Following is not a buzzword of Java language

   a. Distributed b. Portable c. Secure d. Final e. Multi-threaded d. Robust
4) The constructor has its return type as void. True/False
5) Following do not qualify as overloaded methods which have same name but

   a. that differs in the type of arguments b. that differ in the number of arguments

   c. a & b both d. that have different return type.

PART B

Q1. List all the buzzwords of OOPs and explain the following briefly [L1,2 CO1, PO1]

a. Platform independent b. Robust c. Secure d. Multi-threaded

Q2. What are command line arguments? Write a program that reads 3 strings as command line arguments and checks whether they are palindrome or not. If yes print the palindrom in Upper-case with a message that it is a palindrome otherwise just print it is not palindrome. [L3, CO1, PO2]

Q3. Explain with appropriate examples [L2, CO1, PO1]

a. The two different ways in which you declare and initialize one and two dimensional arrays in Java.
b. All the primitive and non-primitive data types in Java
c. All different types of loops in Java.

Q4. With a beat diagram, explain the relationships between JDK, JRE, JVM. Also explain the role of JRE and JVM. [L2, CO1, PO1]

Q5. What are Classes and Objects? How are the objects created from a class? Write a program to illustrate the Concept of a class, properties, methods, object and object instantiation.

[L2, CO2, PO1]

Q6. Design a class Car that has carNum, modelName, color and mileage attributes also design a class called Driver that has driverName, licenceNum, age, address as attributes. Add three methods to car – startCar( ), stopCar( ) and accelerateCar( ) with approprirate print messages in these methods (like starting the car, Accelrating at 10 km/sec^2 etc..). In the driver class add a method driveCar with argument as object of Car class and invoke methods of car class and demonstrate its working in a DemoClass that has main method. The output should also display who is driving the car, and which car is he/she is driving along with start, accelerate and stop messages.

[L3, CO2, PO2]

Q. 7. Design a class SortingClass that has three overloaded methods to sort data of int, float and String types. Demonstrate its working by passing array of all the above three types. Use any sorting method.

```
package iatest;

class Car{
    String carNum;
    String modelName;
    String color;
    float mileage;

    public Car(String carNum, String modelName, String color, float mileage) {
        this.carNum = carNum;
        this.modelName = modelName;
        this.color = color;
        this.mileage = mileage;
    }

    public void startCar(){
        System.out.println(modelName + " is starting....");
    }

    public void accelerateCar(){

        System.out.println("Accelerating at 10km/sec^2...");
    }

    public void stopCar(){
        System.out.println(modelName+" car Stopped...");
    }
}

class Driver{
    String driverName;
    int age; int licenceNum;
    String address;

    public Driver(String driverName, int age, int licenceNum, String address) {
        this.driverName = driverName;
        this.age = age;
        this.licenceNum = licenceNum;
        this.address = address;
    }

    public void driveCar(Car c){
```

```
        System.out.println("I am "+driverName+ " having licence no. "+licenceNum+ " will be drivig the
car");
        c.startCar();
        c.accelerateCar();
        c.stopCar();

    }


}
public class IATEST {


    public static void main(String[] args) {
        Driver d=new Driver("Ajay",28,1234,"Tilakwadi");
        Car c=new Car("KA - 22 3219","Maruti Zen","White",18.75f);
        d.driveCar(c);
    }

}
```

[L3, CO2, PO2]