



SIC No. - 

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Duration: 01:30

Total No. of Pages:-02

Full Marks: 25

**1 Answer All**

- a Differentiate between constructor and method 1
- b Find the output of the code: 1
- ```
class Sample{
    Sample(){
        System.out.println("Sample constructor");
    }
    Sample(int x){
        this();
        System.out.println(x);
    }
}
class Demo4{
    public static void main(String args[]){
        Sample a = new Sample(50);
    }
}
```
- c What will be the output of the below code? 1
- ```
class Demo {
    static int p;
    static {
        p = 11;
        System.out.print(p + " ");
    }
    static{
        p++;
        System.out.print(p + " ");
    }
    public static void main(String[] args) {
        p++;
        System.out.println(p);
    }
}
```
- d What is the advantage of inheritance? 1
- e Find the output for the following code: 1
- ```
class Foo {
    public int i;
    private int j;
}
class Bar extends Foo {
    void display() {
```
- [PTO]**

```

        super.j = super.i + 1;
        System.out.println(super.i + " " + super.j);
    }
}

class Test0 {
    public static void main(String args[]) {
        Bar obj = new Bar();
        obj.i = 1;
        obj.j = 2;
        obj.display();
    }
}

```

f Justify the output of the following code:

```

class Vehicle {
    final void sell() {
        System.out.println("Sold out");
    }
}

class Car extends Vehicle {
    void sell() {
        System.out.println("Only 1 Car left");
    }
    public static void main(String args[]) {
        Car obj = new Car();
        obj.sell();
    }
}

```

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## 2 Answer All

- Write any 3 use of 'this' keyword with example in each case.
- Write a program to find the GCD of two inputted numbers.
- Differentiate between abstract class and Interface.

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## 3 Answer any One

- Write a java program to define a class Employee with data members empId, empName and salary. The class has default and parameterized constructor to initialize the members of the class and a method display() to show the employee details. Create another driver class to read and display the details of 5 employees using an array of Employee class object.
- Write a program to create a class 'Area' with member length and breadth. The class has two methods, 'setDim ()' initialises length and breadth and 'getArea ()' returns the area of the rectangle. Create a driver class to create the objects of class 'Area' and test the functionalities of the Area class.

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## 4 Answer any One

- Write a java program to define a class Library with data members: memberID, Name, and a method to display the member details. The class should have a parameterized constructor to initialize the data members. Create a child class studentMember that contains data members: noOfsemesters and noBooks. Use 'super' in child class constructor to initialize the data members. Create another Driver class to test the functionalities.
- Define an abstract class named as GeometricShape, having data members dimOne and dimTwo and an abstract method calculateArea(). Extend this class to create two concrete classes named as Rectangle and Triangle. Override the calculateArea() method in the sub classes. Invoke the calculateArea() method in the main method of another Driver class through an abstract class reference variable.

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