Assignment Questions

1→ Encapsulation in Java is a concept of Bundling Data (Data and methods) within a single unit, known as class. Idea is to hide internal details & expose only what is necessary for outside world to interact.

It is called Data Hiding since it also provides a way to control access to internal component of object, allowing certain parts to be public & others to be private.

2→ It comes with several features like Access Control, Data Hiding, Code Organisation and Security etc.

4→ 'this' Keyword can be used to refer current object within method.

Example -

```
clan abc
{
    String car;
    int year;
public void Data(String car, int year)
{
 this.car=car;
 this.year=year;
}
public void show()
{
 psvm(car + " " + year);
}
psvm public clan demo
{
    psvm(String[] args)
{
 abc obj = new abc();
 obj.Data("Maruti", 2002);
 obj.show();
}
}
```

Q. What happens if you keep return type for constructor

It will show compilation Error Constructor doesn't have return type, not even 'void'.

Q. How is No-argument constructor different from Default constructor.

Ans: Both have slight Difference.

→ Default constructor is a special type of no-argument constructor that is automatically provided by Java compiler if no other is explicitly defined in class.

Whereas No-argument is explicitly defined in class to perform specific initialization tasks.

Q. Why do we need Static Keyword in Java.

Ans. static keyword is used for memory management and to make java program more efficient. Static variables are stored once and can be used throughout the program.

Example is in the notes, explained there better.

Q. Can we declare local variable as static.

Ans. No, it is not possible. local variable is present inside method or blocks. Static variables are associated with class level variables, not for those that local to specific block.

Q. Why is static block executed before main method in java.

Ans In Java, when class is loaded into JVM, static blocks are loaded before Main method because they are designed to initialize class level variables and they are executed during class loading Process.

Practical Assignment

Q. Create a class that keeps track of the number of instances created. Implement static variable and method to accomplish this.

```
class abc
{
static int c=0;
        {
          c++;
        }
public static void display()
{
 Sop("No. of instances created"+c);
}
}
class Launchabc
{
psvm(String args())
{
  abc obj1=new abc();
  abc obj2=new abc();
  obj2.display();
}
}
```

Q. WAP And create constructor with parameters and initialise variable using constructor.

```
import java.util.*;
class abc
    {
        String name;
        int age;
public abc(String name, int age)
        {
        this.name=name;
        this.age=age; }
        public String getName()
        {
        public void display()
            {
Sopln psvm("Name: "+this.name);
        Sopln("Age: "+this.age); } }
    public class launch1abc
        { psvm(String[]args)
            {
    abc1 person1 = new abc1("John Doe", 25);
    person.display(); }
        }
```

Q. Use private keyword for variable and use setter and getter methods to initialise & print values.

```
import java.util.*;
class abc
    {
private String name;
private int age;

public String getName()
        { return name; }

public void setName(String name)
        { this.name = name; }

public int getAge()
        { return age; }

public void setAge(int age)
        { this.age = age; }
    }

public class getterSetter
    { psvm(String args[])
        {

getterSetter obj = new getterSetter();
obj.setAge(45);
obj.setName("Anshul");
Sop(obj.getAge());
Sop(obj.getName()); } }
```