KADI SARVA VISHWAVIDYALAYA
LDRP INSTITUTE OF TECHNOLOGY & RESEARCH, GANDHINAGAR

B.E. MID-SEMESTER EXAMINATION Mar-Apr 2024

Date : 02/04/2024	Branch : CE & IT
Subject Name & Code: Object Oriented Programming using JAVA Subject Code: CT 405 N	Semester : IV
Time : 9:20 AM to 10:50 AM	Max. Marks : 30

Instructions:
1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Use of scientific calculator is permitted.
4) Indicate clearly, the options you attempt along with its respective question number.
5) Use the last page of main supplementary for rough work.

Q1 A)		Explain the principles of object-oriented programming.	5
B)		Why is Java known as platform independent language?	5
Q2 A)		Find out error(s) if any in the following code and correct it and give the output.	

	1.	class X{
		void method(int a){
		System.out.println("ONE");
		}
		void method(double d) {
		System.out.println("TWO");
		}
		}
		class Y extends X{
		void method(double d){
		System.out.println("THREE");
		}
		}
		public class MainClass{
		public static void main(String[] args){
		new Y().method(100);
		}
		}
			2

	2.	class Derived{
		public void getDetails(){
		System.out.printf("Derived class ");
		}
		}
		public class Test extends Derived{
		public void getDetails(){
		System.out.printf("Test class ");
		super.getDetails();
		}
		public static void main(String[] args){
		Derived obj = new Test();
		obj.getDetails();
		}
		}
			2

	3.	class X{
		static void methodOfX(){
		System.out.println("Class X");
		}
		}
		class Y extends X{
		static void methodOfX(){
		System.out.println("Class X");
		}
		}
		class Z{
		public static void main(String args[]){
		X x = new Y();
		x.methodOfX();
		}
		}
			1

B)		Find out error(s) if any in the following code and correct it and give the output.	

	1.	class A{
		public A(int i){
		System.out.println(1);
		}
		public A(){
		this(10);
		System.out.println(2);
		}
		void A(){
		A(10);
		System.out.println(3);
		}
		void A(int i){
		System.out.println(4);
		}
		}
		public class MainClass{
		public static void main(String[] args){
		new A().A();
		}
		}
			3

	2.	interface P{
		String p = "PPPP";
		String methodP();
		}
		interface Q extends P{
		String q = "QQQQ";
		String methodQ();
		}
		class R implements P, Q{
		public String methodP(){
		return q+p;
		}
		public String methodQ(){
			2

```
        return p+q;
    }
}
public class MainClass{
    public static void main(String[] args){
        R r = new R();
        System.out.println(r.methodP());
        System.out.println(r.methodQ());
    }
}
```

OR

Q2 A) Find out error(s) if any in the following code and correct it and give the output.

1. 2

```
class SuperClass{
    void superClassMethod(Number n){
        System.out.println("From Super Class");
    }
}
class SubClass extends SuperClass{
    void superClassMethod(Double d){
        System.out.println("From Sub Class");
    }
}
public class MainClass{
    public static void main(String[] args){
        SubClass sub = new SubClass();
        sub.superClassMethod(123321);
    }
}
```

2. 2

```
class Equals {
    public static void main(String [] args) {
        int x = 100;
        double y = 100.1;
        boolean b = (boolean) (x == (int) y) ;
        System.out.println(b);
    }
}
```

3. 1

```
interface X{
    void method();
}
class Y{
    public void method(){
        System.out.println("CLASS Y");
    }
}
class Z extends Y implements X{

}
public class MainClass{
    public static void main(String[] args){
        X x = new Z();
        x.method();
    }
```

		}	
B)		Find out error(s) if any in the following code and correct it and give the output.	

	1.	class MainClass{
		public static void main(String[] args) {
		int i = 10 + + 11 - - 12 + + 13 - - 14 + + 15;
		System.out.println(i);
		// \u000d System.out.println("Calculation");
		System.out.print("ONE"+1+2+"TWO"+"THREE"+3+4+"FOUR"+5);
		}
		}
			3

	2.	abstract class view{
		protected void view(){
		System.out.println("Constructor");
		}
		private void test(){
		System.out.println("test Method");
		}
		private abstract void demo();
		}
		class dummy extends view{
		dummy(){
		System.out.println("Dummy Method");
		super();
		}
		public static void main(String arg[]){
		dummy d = new dummy();
		d.demo();
		}
		private void demo(){
		System.out.println("Demo Method");
		}
		}
			2

Q3 A)		Explain the uses of super keyword with example.	5
B)		Write a program to demonstrate protected and default access modifiers in package.	5
		OR	
Q3 A)		Explain the use of static keyword with example.	5
B)		Write a program to demonstrate thread synchronization.	5

Exam Number: _____

KADI SARVA VISHWAVIDYALAYA

B.E. SEMESTER 4th (ATKT) EXAMINATION OCTOBER-2023

Subject Name: Object Oriented Programming using Java **Subject Code: CT405-N**
Date: 04/11/2023 (Saturday) **Time: 12:00 p.m. to 03:00 p.m.** **Total Marks: 70**

Instructions:
1. **All questions are compulsory.**
2. **Figures to the right indicate full marks.**
3. **Indicate clearly, the options you attempt along with its respective question number.**
4. **Use the last page of main supplementary for rough work.**

Section-I

Q.1 (A) Discuss significance of byte code. [5]

(B) List OOP characteristics and describe inheritance with examples [5]

(C) List and explain various features of Java. [5]

OR

(C) Explain all,access modifiers and their visibility as class members. [5]

Q.2 (A) Compare String with StringBuffer. Also, write a program to count the occurrence of a character in a string. [5]

(B) How can you create package in Java? Explain with example. [5]

OR

Q.2 (A) Explain the words **final** and **this** with the help of an example. [5]

(B) Explain types of constructor with the help of an example [5]

Q.3 (A) What is collection in Java? Differentiate between Vector and ArrayList. [5]

(B) Write a JAVA program for matrix multiplication. [5]

OR

Q.3 (A) Explain the following: [5]

i) Arguments and Parameters of a function

ii) Pass by Value and Pass by reference

(B) Compare abstract & interface in Java. [5]

Section-II

Q.4	(A)	What is an Exception? Explain try, catch and finally with example.	[5]
	(B)	What is thread? Describe the complete life cycle of thread	[5]
	(C)	What is the keyword "throw" and "throws" used for?	[5]
		OR	
	(C)	Write a program that illustrates interface inheritance. Interface P is extended by P1 and P2. Interface P12 inherits from both P1 and P2. Each interface declares one constant and one method. class Q implements P12. Instantiate Q and invoke each of its methods. Each method displays one of the constants.	[5]
Q.5	(A)	Compare Binary I/O and text I/O.	[5]
	(B)	Explain Thread Synchronization with example.	[5]
		OR	
Q.5	(A)	Differentiate Application and Applet.	[5]
	(B)	Explain event handling in Java with suitable example.	[5]
Q.6	(A)	Explain the various Character I/O classes with example.	[5]
	(B)	Explain various layouts in Java with proper example.	[5]
		OR	
Q.6	(A)	Write a program to explain the concept of TreeSet.	[5]
	(B)	Explain the lifecycle of Applet.	[5]

Exam Number: _____

KADI SARVA VISHWAVIDYALAYA

B.E. SEMESTER 4th (REG/ATKT) EXAMINATION MAY-2023

Subject Name: Object Oriented Programming using Java **Subject Code: CT405-N**

Date: 15/05/2023 (Wednesday) **Time: 10:00 a.m. to 01:00 p.m.** **Total Marks: 70**

Instructions:

1. **All questions are compulsory.**
2. **Figures to the right indicate full marks.**
3. **Indicate clearly, the options you attempt along with its respective question number.**
4. **Use the last page of main supplementary for rough work.**

Section-I

Q.1 (A) List and explain the features of Java. [5]

(B) List the various operators in Java and explain any two with proper example. [5]

(C) What is control structures and selection in Java? Explain it with example. [5]

OR

(C) Write a JAVA program to implement the Fibonacci series using for loop control structure. [5]

Q.2 (A) Discuss various access modifiers available in JAVA? How access modifier affects the visibility of a member in different access locations? Explain with suitable example. [5]

(B) Explain constructor in java along with its rules and types. Also write down the program to demonstrate the concept of constructor overloading. [5]

OR

Q.2 (A) Explain the given keywords with proper example. 1) this 2) final super [5]

(B) Write a JAVA program for matrix multiplication. [5]

Q.3 (A) Differentiate method overloading and method overriding with the help of example. [5]

(B) What is collection in Java? Differentiate between Vector and ArrayList. [5]

OR

Q.3 (A) Explain the use of final keyword in JAVA with proper example. [5]

(B) Compare abstract & interface in Java. [5]

Explain the Process of thread Creation with example.

Section-II

Q.4	(A)	What is Inheritance? List out its types and explain any one with proper example.	[5]
	(B)	What is Polymorphism? List out its types and explain method overriding with program.	[5]
	(C)	Compare Binary I/O and text I/O.	[5]

OR

	(C)	Describe abstract class called Shape which has three subclasses say Triangle, Rectangle, and Circle. Define one method area() in the abstract class and override this area() in these three subclasses to calculate for specific object i.e. area() of Triangle subclass should calculate area of triangle etc. Same for Rectangle and Circle.	[5]

Q.5	(A)	What is an Exception? Explain try, catch and finally with example	[5]
	(B)	What is multithreading? Explain thread life cycle in java.	[5]

OR

Q.5	(A)	Write a program to raise and handle divide by zero exception.	[5]
	(B)	Explain synchronization in thread with example.	[5]

Q.6	(A)	Explain the lifecycle of Applet.	[5]
	(B)	Explain event handling in Applet with example.	[5]

OR

Q.6	(A)	Explain the various Character I/O classes with example.	[5]
	(B)	Differentiate Application and Applet.	[5]

KADI SARVA VISHWAVIDYALAYA
LDRP INSTITUTE OF TECHNOLOGY & RESEARCH, GANDHINAGAR

B.E. MID-SEMESTER EXAMINATION March 2023

Date : 31/03/2023	Branch : CE & IT
Subject Name & Code: Object Oriented Programming using JAVA Subject Code: CT 405 N	Semester : IV
Time : 09:20 AM to 10:50 AM	Max. Marks : 30

Q1 A) Do as directed (2 marks each) 10

1. Fill in the blank for the following code so that the output is : 5

```
class Q1_1{
    public static void main(String args[]){
        int x[][] = {{1,2,3,4},{5,6,7,8}};
        System.out.println(x[1][3]);
    }
}
```

2. What will be output of the program if executed

```
class Q1_2{
    public static void main(String args[]){
        for(int a=1;a<3;a+=3){
            System.out.println(--a);
        }
    }
}
```

0
2

3. What will be the output of the program

```
class Writer {
    public static void write() {
        System.out.println("Writing...");
    }
}
class Author extends Writer {
    public static void write() {
        System.out.println("Writing book");
    }
}
class Programmer extends Author {
    public static void write() {
        System.out.println("Writing code");
    }
    public static void main(String[] args) {
        Author a = new Programmer();
        a.write();
    }
}
```

4. Consider the following method:

```
public static int secret (int one)
{
  int i;
  int prod = 1;
  for (i = 1; i <= 3; i++)
      prod = prod * one;
  return prod;
}
```

What is the output of the following Java statements?

i. System.out.println(secret(5));

ii.System.out.println(2 * secret(6));

5. Consider the following method:

```
public static int test(int x, int y)
{
    if (x == y)
        return x;
    else if (x > y)
        return (x + y);
    else
        return test(x + 1, y - 1);
}
```

What is the output of the following statements?

a.) System.out.println(test(5, 10));

b.) System.out.println(test(3, 9));

Q2 A) Justify if the following statements are true or false 10

i. We can declare a class as Abstract without having any abstract method.

ii. We can declare main method of our class as private.

iii. We can override static methods of a class.

iv. We can call the constructor of a class more than once for an object.

v. We can use the default constructor of a class even if an explicit constructor is defined.

OR

Q2 A) Explain final keyword with example. 5

B) Explain abstract class with example. 5

Q3 A) Explain interface with example. 5

B) Explain the keywords used in exception handling with example. 5

OR

Q3 A) Write a program to demonstrate user-defined exception. 10

SECTION-II

Q-4(A) Compare abstract and interface in Java [05]

(B) What is package in java? Explain step to create package with example. [05]

(C) Explain Synchronization with example [05]

OR

(C) Explain Lifecycle of Applet [05]

Q-5(A) Write a program to print half pyramid using *

```
*
**
***
****
*****
```

[05]

(B) Compare Binary I/O and Text I/O [05]

OR

Q-5(A) What is Layout? Explain various Layout manager in java [05]

(B) Write a program to print half pyramid using alphabet [05]

```
A
BB
CCC
DDDD
EEEEE
```

Q-6(A) What is collection in java? Differentiate between Vector and ArrayList [05]

(B) Differentiate Application and Applet. [05]

OR

(A) Explain Event Handling in Applet with example. [05]

(B) abstract Vegetable class has three subclasses named Potato, Brinjal and Tomato. [05]
Write an application that demonstrates how to establish this class hierarchy.
Declare one instance variable of type String that indicates the color of a vegetable.
Create and display instances of these objects.

Best of Luck

```
II. class Ex
 {
    public static void main (String args[])
    {
     try
     {
         int a=10, int b=0;
         int output =a/b;
         System.out.println("Result:"+output);
     }
     catch(Arithmetic Exception e)
     {
         System.out.println("you Shouldn't divide number by zero");
     }
   }
}
```

(B) What is multithreading? Explain thread life cycle in java. [05]

OR

Q-2(A) Explain visibility modifiers with their scope in packages. [05]

(B) What is String class? Explain String class method with example. [05]

Q-3(A) Explain method overloading with program. [05]

(B) What is Inheritance? Explain multilevel inheritance with program. [05]

OR

Q-3(A) What is Polymorphism? Explain method overriding with program. [05]

(B) Explain constructor in java and its rule with program. [05]

Enrollment No_____

KADI SARVA VISHWAVIDYALAYA

B.E. SEMESTER – IV REGULAR EXAMINATION June -2022

SUBJECT CODE: - CT405-N **SUBJECT NAME:- Object Oriented Programming Using Java**

DATE: -15-06-2022 **TIME: - 12:30 TO 3:30PM** **MARKS:-70**

Instructions:

1. Answer each section in separate Answer Sheet.
2. All questions are **compulsory**.
3. Indicate clearly, the options you attempted along with its respective question number.
4. Assume suitable data wherever necessary.
5. Use of scientific calculator is permitted.

SECTION-I

Q-1 (A) List and Explain features of Java . **[05]**

(B) What is byte code? Justify why Java is platform independent . **[05]**

(C) Compare Object Oriented programming with procedural programming language. **[05]**

OR

(C) Explain following keywords by example **[05]**
this, final ,super

Q-2 (A) Give output of following code. **[05]**
I . if the output of any program is an error according you, you have to mention which type of error it is. Compile time, Runtime and Justify.

```
public class ABC
{
  public static void main (String args[])
 {
   try
        {
            int a[]= new int[10];
            a[11]=9;
        }
        catch (ArrayIndexOutOfBoundsException e)
        {
            System.out.println("ArrayIndexOutofBounds");
        }
    }
}
```

Section – II

Q-4 **Answer the following questions.** (All compulsory)

(A) Explain use of try, catch, finally with suitable example in exception handling of java. [5]

(B) Explain life cycle of thread in java. [5]

(C) Write a java program to copy content of file1.txt to file2.txt using java file handling. [5]

OR

Q-4 (C) Write a java programs to handle Arithmetic Exception. [5]

Q-5 **Answer the following questions.**

(A) Explain Java Border Layout with suitable example. [5]

(B) Write a java programs to handle ArrayIndexOutOfBounds Exception. [5]

OR

Q-5 (A) How can we open and read a text file in java? Explain your answer with example. [5]

(B) Write a java program to implement custom exception (user define exception). [5]

Q-6 **Answer the following questions.**

(A) Write a java program to define two threads one will print 1 to 10 numbers whereas other will print 11 to 20 numbers. [5]

(B) Explain Java Grid Layout with suitable example. [5]

OR

Q-6 (A) Explain life cycle of Applet in java. [5]

(B) Give the output of following java code: [5]

```
public class Code{

  public static void main(String args[])
  {
    StringBuffer str1 = new StringBuffer("ldrp");
    StringBuffer str2 = str1;
    str1.append("itr");
    System.out.println(str1 + " " + str2 + " " + (str1 == str2));
  }
}
```

Seat No:- _____

KADI SARVA VISHWAVIDHYALAYA

B.E. CE/IT/CSE Semester 4 Examination- November-2022

Subject Code:- CT405-N **Subject Name:- OOPJ**

Time:- 10.00 AM to 01.00 PM

Date: 14/11/2022 **Total Marks:- 70**

Instructions:

1. Answer each section in separate Answer sheet.
2. All questions are **Compulsory**.
3. Indicate **clearly**, the options you attempt along with its respective question number.
4. Make suitable **assumption** where needed.

Section – I

Q-1 **Answer the following questions.** (All compulsory)

(A) List and explain various features of java. [5]

(B) What is constructor? Explain constructor overloading of java with example. [5]

(C) Differentiate between Method overloading and Method overriding of java. [5]

OR

(C) Explain any two methods of String Class and String Buffer Class of java with suitable example. [5]

Q-2 **Answer the following questions.**

(A) Explain this and static keywords of java with suitable example. [5]

(B) Explain use of protected and default access specifiers of java with suitable example. [5]

OR

Q-2 (A) Write a java program to demonstrate abstract class with suitable example. [5]

(B) Write a java program of multilevel inheritance with suitable example. [5]

Q-3 **Answer the following questions.**

(A) Explain super and final keywords of java with suitable example [5]

(B) Explain dynamic method dispatch of java with suitable example? [5]

OR

Q-3 (A) Write a java program to implement Arraylist and Treeset classes. [5]

(B) Write a java program to implement user define package. [5]