NATIONAL FORENSIC SCIENCES UNIVERSITY

Subject Code: CTMTCSE SIII P4   **Date:**
Subject Name: Java Programming
Time: 11:30 – 1:00 pm   **Total Marks: 50**

Instructions:
1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

			Marks
Q.1	(a)	What is JVM,JDK and JRE?	
		or	05
	(b)	Differentiate between method overloading and Overriding.	
	(c)	Difference between throw and throws	05
	(d)	List the features of Java. Briefly explain each features with example	07
Q.2	(a)	What are the two uses of keyword this in Java	
		or	05
	(b)	Explain exception handling in JAVA. Write a program that generates custom exception if any integer value given from its command line arguments is negative	
	(c)	What is constructor overloading? Explain with example.	05
	(d)	What is super keyword and why it is used? Write a java program to find out cost. weight and volume of a box using multilevel inheritance and use super keyword at proper places?	07
Q.3	(a)	Write a program to find out the area of rectangle and perimeter of rectangle and square using method overriding and implement inheritance using base class.	04
	(b)	Discuss final class in detail with an example.	04
	(c)	With examples explain interfaces.	04
	(d)	Explain main( ) method in java. What is java's magic byte code? Explain in detail	04
		or	
	(e)	Illustrate the difference between java & C++. Why is Java language important in relevance to the Internet?	04

-END OF PAPER-

NATIONAL FORENSIC SCIENCES UNIVERSITY

B.Tech. M.Tech. CSE (CS) - Semester - III - Jan-2023

Subject Code: CTBTCSE SIII P4
Subject Name: Java Programming
Time: 11:00 AM to 2:00 PM

Date: 12/01/2023

Total Marks: 100

Instructions:
1. Write down each question on a separate page.
2. Attempt all questions.
3. Make suitable assumptions wherever necessary.
4. Figures to the right indicate full marks.

			Marks
Q.1	(a)	What is Overloading? Explain Method Overloading and Constructor Overloading with example.	05
	(b)	What is Inheritance? Explain types of inheritance in java with example.	05
	(c)	Explain "this", "super" and "static" keyword with java code	05
Q.2	(a)	Differentiate AWT Vs Swing	05
	(b)	What is Regular Expression? Explain Pattern and Matcher with example.	05
		OR	
	(b)	What is Multithreading? Explain with Example.	05
Q.3	(a)	Discuss the life cycle of thread in detail with examples.	07
	(b)	What is abstraction? Differentiate abstract class Vs Interface	07
		OR	
	(b)	List various AWT components with their functionalities along with the JAVA syntax for the respective component	07
Q.4	(a)	Explain the use "final" keyword with variable, class and method.	07
	(b)	Explain the use of try, catch, throw, throws and finally with example	07
	(c)	Write a Java Program to display content of file with line number	07
		OR	
	(c)	Write a program to find out the area of rectangle and perimeter of rectangle & Square using method overriding and inheritance using base class.	07
Q.5	(a)	Explain Custom Exception with example of Java Code.	08
	(b)	What is the nested class? Explain nested class with example.	08
		OR	
	(b)	Define Package. Explain all access specifiers with package in java.	08
Q.6	(a)	Explain ObjectOutputStream and ObjectInputStream with java code	08
	(b)	Explain how many ways to create the Thread with java code.	08
	(c)	What is Collection? Explain Set and List with java code	08
		OR	
	(c)	Describe the life cycle of an applet in Detail?	08

END OF PAPER

1) Which of the following option leads to the portability and security of Java?

1. Bytecode is executed by JVM
2. The applet makes the Java code secure and portable
3. Use of exception handling
4. Dynamic binding between objects

2) Which of the following is not a Java features?

1. Dynamic
2. Architecture Neutral
3. Use of pointers
4. Object-oriented

3) What should be the execution order, if a class has a method, static block, instance block, and constructor, as shown below?

```
1.   public class First_C {
2.       public void myMethod()
3.       {
4.       System.out.println("Method");
5.       }
6.
7.       {
8.       System.out.println(" Instance Block");
9.       }
10.
11.      public void First_C()
12.      {
13.      System.out.println("Constructor ");
14.      }
15.      static {
16.          System.out.println("static block");
17.      }
18.      public static void main(String[] args) {
19.      First_C c = new First_C();
20.      c.First_C();
21.      c.myMethod();
22.   }
23. }
```

a) Instance block, method, static block, and constructor
b) Method, constructor, instance block, and static block
c) Static block, method, instance block, and constructor
d) Static block, instance block, constructor, and metho

____ is used to find and fix bugs in the Java programs.

1. JVM
2. JRE
3. JDK
4. JDB

Which of the following is a valid declaration of a char?

1. char ch = '\utea';
2. char ca = 'tea';
3. char cr = \u0223;
4. char cc = '\itea';

8) What is the return type of the hashCode() method in the Object class?

1. Object
2. int
3. long
4. void

10) What does the expression float a = 35 / 0 return?

1. 0
2. Not a Number
3. Infinity
4. Run time exception

11) Which of the following tool is used to generate API documentation in HTML format from doc comments in source code?

1. javap tool
2. javaw command
3. Javadoc tool
4. javah command

12) Which of the following creates a List of 3 visible items and multiple selections abled?

1. new List(false, 3)
2. new List(3, true)
3. new List(true, 3)

4. new List(3, false)

13) Which of the following for loop declaration is not valid?

1. for (int i = 99; i >= 0; i / 9)
2. for (int i = 7; i <= 77; i += 7)
3. for (int i = 20; i >= 2; - -i)
4. for (int i = 2; i <= 20; i = 2* i)

---

14) Which method of the Class.class is used to determine the name of a class represented by the class object as a String?

1. getClass()
2. intern()
3. getName()
4. toString()

15) In which process, a local variable has the same name as one of the instance variables?

1. Serialization
2. Variable Shadowing
3. Abstraction
4. Multi-threading

16) Which of the following is true about the anonymous inner class?

1. It has only methods
2. Objects can't be created
3. It has a fixed class name
4. It has no class name

17) An interface with no fields or methods is known as a _____.

1. Runnable Interface
2. Marker Interface
3. Abstract Interface
4. CharSequence Interface

18) Which option is false about the *final* keyword?

1. A *final* method cannot be overridden in its subclasses.
2. A *final* class cannot be extended.
3. A *final* class cannot extend other classes.
4. A *final* method can be inherited.

19) Which of these classes are the direct subclasses of the **Throwable** class?

1. RuntimeException and Error class
2. Exception and VirtualMachineError class
3. Error and Exception class
4. IOException and VirtualMachineError class

20) Which of the following is a reserved keyword in Java?

1. object
2. strictfp
3. main
4. system

21. **Implement Java program to illustrate the concept of inheritance**

22. **Implement exception handling in JAVA Program.**