Institute of Computer Technology

B. Tech. Computer Science and Engineering

Semester: III

Sub: Object-Oriented Programming

Course Code: 2CSE303

Practical Number:12

Objective: To learn about exception handling concepts in Java.

Problem Definition:

Q.1. Write an appropriate program of the following Unchecked (runtime) exception

1. Arithmetic Exception.

2. ArrayIndexOutOfBoundException.

3. ClassCastException.

4. IllegalParameterException.

E.g

```java
import java.util.Scanner;

public class UncheckedExceptionExamples {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.println("Select an exception to demonstrate:");
        System.out.println("1. ArithmeticException");
        System.out.println("2. ArrayIndexOutOfBoundsException");
        System.out.println("3. ClassCastException");
        System.out.println("4. IllegalArgumentException");
        int choice = scanner.nextInt();

        switch (choice) {
            case 1:
                try {
                    int result = 10 / 0; // Division by zero
                } catch (ArithmeticException e) {
```

```java
        System.out.println("ArithmeticException occurred: " +
e.getMessage());
        }
        break;

    case 2:
        try {
            int[] arr = {1, 2, 3};
            System.out.println(arr[5]); // Invalid index
        } catch (ArrayIndexOutOfBoundsException e) {
            System.out.println("ArrayIndexOutOfBoundsException
occurred: " + e.getMessage());
        }
        break;

    case 3:
        try {
            Object obj = new Integer(100);
            String str = (String) obj; // Invalid casting
        } catch (ClassCastException e) {
            System.out.println("ClassCastException occurred: " +
e.getMessage());
        }
        break;

    case 4:
        try {
            Thread t = new Thread();
            t.setPriority(20); // Invalid priority
        } catch (IllegalArgumentException e) {
```

```java
            System.out.println("IllegalArgumentException occurred: "
 + e.getMessage());
        }
        break;

    default:
        System.out.println("Invalid choice!");
        break;
    }
    scanner.close();
  }
}
```