Code: 20IT3404

## II B.Tech - II Semester – Regular / Supplementary Examinations MAY - 2024

## PROGRAMMING WITH JAVA
### (INFORMATION TECHNOLOGY)

Duration: 3 hours                               Max. Marks: 70

Note:  1. This paper contains questions from 5 units of Syllabus. Each unit carries 14 marks and have an internal choice of Questions.
2. All parts of Question must be answered in one place.

BL – Blooms Level                               CO – Course Outcome

| | | | BL | CO | Max. Marks |
|---|---|---|---|---|---|
| | | **UNIT-I** | | | |
| 1 | a) | Identify indefinite and definite looping structures. Write a program to generate the Fibonacci series upto a given input number. | L2 | CO1 | 7 M |
| | b) | Explain the two step process in obtaining objects of a class with an example. | L2 | CO2 | 7 M |
| | | **OR** | | | |
| 2 | a) | Identify the role of constructors in Java. Write a Java program to find the area of a rectangle using constructor. | L3 | CO2 | 7 M |
| | b) | Write a note on control statements used in JAVA with appropriate illustrations. | L2 | CO1 | 7 M |

## UNIT-II

| 3 | a) | Construct a program to read a string through the commandline and print the reverse of the string. | L3 | CO2 | 7 M |
|---|---|---|---|---|---|
| | b) | Differentiate method overloading and overriding with relevant example for each. | L2 | CO2 | 7 M |

**OR**

| 4 | a) | How interfaces can be utilized for implementing inheritance? Explain with example. | L2 | CO2 | 7 M |
|---|---|---|---|---|---|
| | b) | Prepare a Java program to find the maximum occurring character in a given string. | L3 | CO2 | 7 M |

## UNIT-III

| 5 | a) | Construct a program to handle the arithmetic exception "Division by zero". | L3 | CO3 | 7 M |
|---|---|---|---|---|---|
| | b) | Explain the concept of multithreading in JAVA using suitable program. | L4 | CO3 | 7 M |

**OR**

| 6 | a) | Construct a program to throw a security exception in case of illegal path is identified. | L3 | CO3 | 7 M |
|---|---|---|---|---|---|
| | b) | Prepare a multi-thread Java program with two threads. One thread generates even numbers from 1 to 50 and another thread generates odd numbers from 1 to 50. Ensure that they do not interfere. | L3 | CO3 | 7 M |

## UNIT-IV

| 7 | a) | Illustrate the following layout managers:<br>i. Grid Layout  ii. Flow Layout | L3 | CO4 | 7 M |
|---|---|---|---|---|---|
| | b) | How events are handled in Java? Demonstrate with suitable examples. | L3 | CO4 | 7 M |

| OR | | | | | |
|---|---|---|---|---|---|
| 8 | a) | Interpret any 10 AWT classes and their syntax. | L3 | CO4 | 7 M |
| | b) | Construct a GUI application to accept Account No, Name and Balance from the User and print "low balance", if the balance is less than 100 by clicking "Check" button. | L3 | CO4 | 7 M |

## UNIT-V

| 9 | a) | Design a screen in Java which accepts text in text box. If the left mouse is clicked, convert the text to uppercase and if the right button is clicked, convert it to lower case. | L3 | CO4 | 7 M |
|---|---|---|---|---|---|
| | b) | Demonstrate the use of containers in swings and also list different types of panes and corresponding methods to add components to containers in swing applications. | L3 | CO4 | 7 M |

| OR | | | | | |
|---|---|---|---|---|---|
| 10 | a) | Write a Java program to create a combo box which includes list of subjects. Copy the subjects in text field on click using applet. | L3 | CO4 | 7 M |
| | b) | Explain the features of Swings in Java. | L2 | CO4 | 7 M |