

R22

Code No: 183BU

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech II Year I Semester Examinations, February - 2024

OBJECT ORIENTED PROGRAMMING THROUGH JAVA

(Common to CSE, CE(SE), CSE(CS), CSE(DS), CSD)

Time: 3 Hours

Max. Marks: 60

Note: This question paper contains two parts A and B.

i) **Part- A** for 10 marks, ii) **Part - B** for 50 marks.

- Part-A is a compulsory question which consists of ten sub-questions from all units carrying equal marks.
- Part-B consists of **ten questions** (numbered from 2 to 11) **carrying 10 marks each**. From each unit, there are two questions and the student should answer one of them. Hence, the student should answer five questions from Part-B.

PART- A

(10 Marks)

- 1.a) What are Instance variables in Java? [1]
- b) Mention the two major types of type casting in Java? [1]
- c) What is difference between interface and abstract class? [1]
- d) Can a class implement 2 interfaces in Java? [1]
- e) What is Finally block? [1]
- f) What does @Override annotation do in Java? [1]
- g) What is a Scrollpane? [1]
- h) What is the need of Adapter class? [1]
- i) List one limitation of AWT. [1]
- j) Can we pass parameters to an Java Applet? Give an example. [1]

PART-B

(50 Marks)

- 2.a) How do you declare and initialize Single Dimensional and 2-Dimensional arrays in Java? Explain. [7+3]
- b) What is the main purpose of Garbage collection in Java? [7+3]

OR

- 3.a) Write the syntaxes of While and For loops in java. [4+6]
- b) Write a java program to find factorial of a given number using recursion? [4+6]
- 4.a) Write the benefits and limitations of the Inheritance in Java. [4+6]
- b) Explain Multi-level and Hybrid Inheritance in Java with suitable examples. [4+6]

OR

- 5.a) What are the two types of Packages in Java? How package is created in Java? Explain with an example. [6+4]
- b) What is the difference between compile-time polymorphism and runtime polymorphism? [6+4]

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- 6.a) How do you create a Thread in Java? Explain Thread Priorities importance. [6+4]
b) What is Multi Threading? How do you implement it in Java? [6+4]

OR

- 7.a) Explain the role of Try and Catch blocks in handling exceptions. Give one example. [6+4]
b) Write the benefits of exception handling in Java. [6+4]

8. Explain Keyboard event handling in Java. [10]

OR

- 9.a) What is Delegation event model? Explain [6+4]
b) How the AWT labels are created in Java? Explain with an example. [6+4]

- 10.a) How do you create an Applet in Java? What are the 4 methods of applet class? Explain. [5+5]
b) Explain 2 types of Applets in detail. [5+5]

OR

- 11.a) What is the MVC architecture? Explain. [5+5]
b) Explain JFrame and Trees in Java Swing? [5+5]

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