

R22

Code No: 183BU

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech II Year I Semester Examinations, December – 2024/ January - 2025

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)

- Mention all parameter passing techniques supported by Java. [1]
- What is a Lifetime of a variable? [1]
- What is an Inner class in Java? [1]
- Define an Abstract class. [1]
- What is significance of Finally block in exception handling in Java? [1]
- What is an Annotation? [1]
- What is the need of Adapter classes? [1]
- What is layout manager? [1]
- List the differences between Applets and Applications [1]
- Draw the diagram for MVC architecture. [1]

PART-B

(50 Marks)

- What is Type Casting in Java? How is it different from type conversion? [3+7]
 - Write a Java program to find the Fibonacci sequence using recursion. [3+7]
- OR**
- Explain all types of constructors that Java supports. [3+7]
 - Write a Java program to find the sum of the digits of a given number. [4+6]
- What are Base class and Subclass? Explain their role in Java Inheritance. [3+7]
 - Write a Java program that creates a class hierarchy for employees of a company. The base class should be Employee, with subclasses Manager, Developer, and Programmer. Each subclass should have properties such as name, address, salary, and job title. Implement methods for calculating bonuses, generating performance reports, and managing projects. [3+7]

OR

- How to create and access Packages in Java? Explain. [3+7]
- Write a Java program to create an interface Resizable with methods `resizeWidth(int width)` and `resizeHeight(int height)` that allow an object to be resized. Create a class Rectangle that implements the Resizable interface and implements the resize methods. [3+7]

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- 6.a) How can a thread's priority be modified in Java after its creation?
b) Write a Java program that creates two threads to find and print prime and non prime numbers from 1 to 50. [2+8]

OR

- 7.a) Discuss about the Resumptive exception model.
b) Write a Java program to create a method that takes an integer as a parameter and throws an exception if the number is odd. [4+6]

- 8.a) Discuss about Mouse events and how to handle them.
b) What is the need of Event Listener? Give an example. [7+3]

OR

- 9.a) Write a Java program to create Scrollbar, Text Component and Menubar GUI components using AWT.
b) Write the syntaxes to add Scrollpane and CheckBox groups in Java using AWT. [6+4]

- 10.a) Discuss about various types of an Applet.
b) Write a java program to create an Applet that accepts user name and age and display the same. [4+6]

OR

- 11.a) Write the syntaxes to add JButton and Tabbed Panes to the user interface in Java using Swings.
b) Explain how to create trees and tables in user interface using Java Swings. [5+5]

QA QA QA QA QA QA QA G

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