

BALLARI INSTITUTE OF TECHNOLOGY & MANAGEMENT

(Autonomous Institute under Visvesvaraya Technological University, Belagavi)

USN

Course Code

22CS/AI/CA/CD/36

Third Semester B.E. Degree Examinations, January 2025

OBJECT ORIENTED PROGRAMMING WITH JAVA

(Common to CSE, AIML, CSE- AI, CSE- DS)

Duration: 3 hrs

Max. Marks: 100

Note: 1. Answer any FIVE full questions choosing ONE full Question from each Module.

2. Missing data, if any, may be suitably assumed

<u>Q. No</u>	<u>Question</u>	<u>Marks</u>	<u>(RBTL:CO:PI)</u>
<u>Module-1</u>			
1.	a. What are the different data types available in Java? List and explain primitive datatypes.	07	(2:1 : 2:1:3)
	b. Differentiate between the widening and narrowing of data types.	06	(2:1 : 2:1:3)
	c. Write a Java program to print the following pattern: 1 0 1 1 0 1 0 1 0 1	07	(3:1 : 2:2:4)
(OR)			
2.	a. What are control statements? List and explain the various conditional statements in Java.	07	(2:1 : 2:1:3)
	b. List the various operators available in Java. Explain any three operators with example.	06	(2:1 : 2:1:3)
	c. Write a Java program to swap two numbers without using third variable. (Use only Bitwise operators).	07	(3:1 : 2:2:4)
<u>Module-2</u>			
3.	a. What is a constructor? List various types of constructors and illustrate with example.	07	(2:2 : 2:1:3)
	b. What is garbage collection? How is garbage collection accomplished in Java?	06	(2:2 : 2:1:3)
	c. Develop in JAVA a class book that reads Book_id, Book_title, Author, and Price for 'n' books and prints the details of the book.	07	(3:2 : 2:2:4)
(OR)			
4.	a. List the different uses of final keyword at various levels. Illustrate with example.	07	(2:2 : 2:1:3)
	b. Explain the super keyword and list its usage at various levels with examples.	06	(2:2 : 2:1:3)
	c. Write an abstract class shape, which has an abstract method area(). Derive two classes Triangle and Rectangle from the shape class and to override area(). Compute area of different shapes and display the same.	07	(3:2 : 2:2:4)

Note: (RBTL - Revised Bloom's Taxonomy Level: CO - Course Outcome: PI- Performance Indicator)

Module-3

- | | | | | |
|----|----|--|----|---------------|
| 5. | a. | Write a short note on
(i) Packages (ii) Interfaces | 07 | (2:3 : 2:1:3) |
| | b. | What is an exception? Explain the five keywords associated with exception handling. | 06 | (2:3 : 2:1:3) |
| | c. | Write a syntax of try and catch block to handle multiple exception. Illustrate with example. | 07 | (3:3 : 2:1:3) |

(OR)

- | | | | | |
|----|----|--|----|---------------|
| 6. | a. | Draw state transition diagram of a thread and describe life cycle of a thread. | 07 | (2:3 : 2:1:3) |
| | b. | Describe thread priority. Write a program to assign and get thread priority. | 06 | (2:3 : 2:2:4) |
| | c. | Discuss any three thread methods with example. | 07 | (3:3 : 2:2:4) |

Module-4

- | | | | | |
|----|----|--|----|---------------|
| 7. | a. | What is an event? What are the different types of events? Explain event classes with example | 10 | (2:4 : 2:1:3) |
| | b. | What is an event listener interface and explain event listener interfaces with syntax. | 10 | (2:4 : 2:1:3) |

(OR)

- | | | | | |
|----|----|--|----|---------------|
| 8. | a. | Write a program in java to demonstrate the mouse event handlers. | 10 | (2:4 : 2:2:4) |
| | b. | Explain adapter class and inner classes. | 10 | (2:4 : 2:1:3) |

Module-5

- | | | | | |
|----|----|---|----|---------------|
| 9. | a. | What is swing? List the main swing features. Explain the different types of panes of swing containers. | 10 | (2:5: 2:1:3) |
| | b. | List the different types of swing buttons. Write a program to create four types of buttons on JApplet. Use suitable events to show actions on the buttons and use JLabel to display the action invoked. | 10 | (3:5 : 2:2:4) |

(OR)

- | | | | | |
|-----|----|--|----|---------------|
| 10. | a. | Difference between swings and AWT. | 10 | (2:5: 2:1:3) |
| | b. | Write the steps to create Jtable. WAP to create a table with the column headings Id, Name and Salary & insert records and display. | 10 | (3:5 : 2:2:4) |

** ** *