

Basavarajeswari Group of Institutions  
**BALLARI INSTITUTE OF TECHNOLOGY & MANAGEMENT**  
(Autonomous Institute under Visvesvaraya Technological University, Belagavi)

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Course Code **22CS/AI/CA/CD36**

Third Semester B.E. Degree Examinations, March/April 2024  
**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>
<b><u>Module-1</u></b>			
1.	a. Explain with an example the structure of a Java program.	06	(2:1:2.1.3)
	b. What is a variable? Explain with example, the different types of variables available in Java.	06	(2:1:2.1.3)
	c. What are control statements? List the various looping statements in Java.	08	(3:1:2.1.3)
<b>(OR)</b>			
2.	a. What are keywords and identifiers? List the rules to write identifiers.	06	(2:1:2.1.3)
	b. What are different types of operators in Java? Explain any two types of operators.	06	(2:1:2.1.3)
	c. How are arrays declared and initialized in Java? Explain with suitable example.	08	(3:1:2.1.3)
<b><u>Module-2</u></b>			
3.	a. Write a Java program to define box class with default, no parameter and parametrized constructors.	07	(2:2:2.1.3)
	b. With an example illustrate the usage of final keyword at various levels.	06	(2:2:2.1.3)
	c. Develop a class Book that reads Book_id, Book_title, Author, and Price for 'n' books and prints the details of the book	07	(3:2:2.1.3)
<b>(OR)</b>			
4.	a. What are classes and objects? With an example program, explain how objects of a class are created.	07	(2:2:2.1.3)
	b. List and explain various types of inheritance available in Java.	06	(2:2:2.1.3)
	c. Create a class figure in Java with following member's length, breadth, and abstract method area. Create a subclasses Triangle, Rectangle with method of area.	07	(3:2:2.1.3)
<b><u>Module-3</u></b>			
5.	a. Compare and contrast between multitasking and multithreading.	06	(3:3:2.1.3)
	b. Draw state transition diagram of a thread and describe life cycle of a thread	06	(2:3:2.1.3)
	c. Describe thread priority. Write a program to assign and get thread priority.	08	(3:3:2.1.3)

**(OR)**

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

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| <b>6.</b> | <b>a.</b> What is an exception? Explain the usage of throw and throws keyword with an example.                                     | <b>06</b> | (3:3:3.1.3) |
|           | <b>b.</b> What is an interface? Illustrate with an example how interfaces are created and implemented in Java.                     | <b>06</b> | (2:3:2.1.3) |
|           | <b>c.</b> Illustrate with an example to create a user-defined exception class to handle an arithmetic exception for a given input. | <b>08</b> | (3:3:2.1.3) |

#### **Module-4**

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| <b>7.</b> | <b>a.</b> Explain action event class and adjustment event class.                                      | <b>06</b> | (2:4:2.1.3) |
|           | <b>b.</b> What is delegation event model? Describe the significance of adapter class with an example. | <b>08</b> | (3:4:2.1.3) |
|           | <b>c.</b> What is event listener interface and explain any two interfaces with syntax.                | <b>06</b> | (2:4:2.1.3) |

**(OR)**

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| <b>8.</b> | <b>a.</b> Write short notes on (i) Adapter class (ii) Inner class            | <b>06</b> | (2:4:2.1.3) |
|           | <b>b.</b> Write short notes on event class and explain any two with example. | <b>08</b> | (3:4:2.1.3) |
|           | <b>c.</b> Write a Java program to demonstrate mouse event handling.          | <b>06</b> | (2:4:2.1.3) |

#### **Module-5**

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| <b>9.</b> | <b>a.</b> Difference between swings and AWT.  | <b>05</b> | (2:5:2.1.3) |
|           | <b>b.</b> Explain briefly the components and containers used in swings  | <b>05</b> | (2:5:2.1.3) |
|           | <b>c.</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. | <b>10</b> | (3:5:2.1.3) |

**(OR)**

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|-----------|--|-----------|-------------|
| <b>10</b> | <b>a.</b> What is swing? List the main swing features. Explain the different types of panes of swing containers.                                 | <b>10</b> | (2:5:2.1.3) |
|           | <b>b.</b> Write the steps to create Jtable. WAP to create a table with the column headings Name, USN, age, address & insert records and display. | <b>10</b> | (3:5:2.1.3) |

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