

Dr. Babasaheb Ambedkar Open University

Term End Examination January – 2026

Course	: BSCIT	Date	: 2026
Subject Code	: BSCITRMA-401	Time	: 11:30am to 01:45pm
Subject Name	: Object Oriented Programming using Java	Duration	: 02.15 Hours
		Max. Marks	: 70

Section A

Answer the following (Attempt any three) (30)

1. Explain the purpose of constructors in Java.
2. What is Inheritance? Explain types of Inheritance in Java.
3. Explain Thread states and Life cycle in detail.
4. Explain the Graphics class and Describe the commonly used methods of the Graphics class for drawing different components.
5. Explain AWT components in Java. Discuss the different types of AWT components and their role in building a graphical user interface.

Section B

Answer the following (Attempt any four) (20)

1. Explain the concept of Objects and Classes in Java.
2. Explain the difference between Array and ArrayList in Java.
3. Explain the role of JVM (Java Virtual Machine).
4. What is the finalize() method in Java?
5. Explain Generic in Java in brief.
6. Discuss the various methods of the Thread class in Java and explain their significance in multithreading.

Section C

Part – A (Multiple Choice Questions) (10)

Q-1 Which of the following best describes encapsulation in Java?

- A) Hiding implementation details and exposing only behavior
- B) Deriving new classes from existing ones
- C) Implementing multiple methods with the same name
- D) Breaking program into smaller modules

Q-2 Which keyword in Java is used to inherit a class?

- A) implement
- B) super
- C) extends
- D) inherits

Q-3 Which interface in Java is used to implement multiple inheritance of type?

- A) Runnable
- B) Cloneable
- C) Serializable
- D) Interface

Q-4 Which Java class provides dynamic arrays that can grow in size?

- A) Vector
- B) ArrayList
- C) Hashtable
- D) LinkedList

Q-5 In linked data structures, each node typically contains:

- A) Only data
- B) Data and a reference to the next node
- C) Only references
- D) Data and multiple arrays

Q-6 Which Java stream is used for handling primitive data types in binary form?

- A) FileReader
- B) FileInputStream
- C) DataInputStream
- D) BufferedReader

Q-7 Which method is used to start a thread in Java?

- A) run()
- B) init()
- C) execute()
- D) start()

Q-8 Which AWT control is used for creating a drop-down list?

- A) Checkbox
- B) Choice
- C) TextArea
- D) Label

Q-9 In the Event Delegation Model, which object generates an event?

- A) Listener
- B) Source
- C) Adapter
- D) Component

Q-10 Which method of Graphics class is used to draw a line?

- A) drawShape()
- B) drawLine()
- C) drawRect()
- D) drawDraw()

Part – B (State whether the following statements are true or false)

(10)

- 1 In Java, objects are instances of classes.
- 2 An abstract class can be instantiated directly.
- 3 ArrayList allows dynamic resizing of arrays.
- 4 Linked List nodes can only store primitive data types.
- 5 InputStream in Java is used for reading byte data.
- 6 The run() method must be called directly to execute a thread.
- 7 In AWT, Label is a passive control used only for displaying text.
- 8 Event Delegation Model is more efficient than event inheritance model.
- 9 Graphics class in Java cannot be used for drawing rectangles.
- 10 In Java, multiple interfaces can be implemented by a single class.
