

Dr. Babasaheb Ambedkar Open University
Term End Examination July – 2026

Course	: BCA	Date	: 13-07-2026
Subject Code	: BCAR-304	Time	: 11:30am to 01:45pm
Subject Name	: Object Oriented Concepts & Programming-II (Advance Java)	Duration	: 02.15 Hours
		Max. Marks	: 70

Section A

Answer the following (Attempt any three) (30)

1. Explain Swing architecture in Java in detail.
2. Explain the Event Delegation Model in Java.
3. Discuss TCP/IP and UDP protocols, socket programming and the use of `Socket` and `ServerSocket` classes.
4. Explain Java Database Connectivity (JDBC) in detail.
5. Discuss the Servlet life cycle in detail.

Section B

Answer the following (Attempt any four) (20)

1. Explain the advantages of Swing over AWT.
2. Differentiate between TCP and UDP protocols.
3. Write a short note on Layout Managers in Swing.
4. Explain the purpose of `Statement` and `PreparedStatement` in JDBC.
5. Differentiate between GET and POST methods in Servlets.
6. Explain the purpose of Implicit Objects in JSP.

Section C

Part – A (Multiple Choice Questions) (10)

Q.1 Which package primarily contains Swing GUI components?

- A) java.awt B) javax.swing
C) java.net D) java.sql

Q.2 Which Swing component is commonly used as the main application window?

- A) JPanel B) JFrame
C) JButton D) JLabel

Q.3 Which listener interface is commonly associated with button click events?

- A) MouseListener B) ActionListener
C) KeyListener D) WindowListener

Q.4 Which class is primarily used to establish a connection with a database in JDBC?

- A) DriverManager B) Statement
C) ResultSet D) ConnectionPool

Q.5 Which protocol provides reliable, connection-oriented communication?

- A) UDP B) FTP
C) TCP D) IP

Q.6 Which Servlet method is invoked only once during the servlet's life cycle for initialization?

- A) service() B) destroy()
- C) init() D) doGet()

Q.7 Which JSP directive is primarily used to import Java packages?

- A) include B) page
- C) taglib D) forward

Q.8 Which object stores session-specific information in a JSP application?

- A) request B) response
- C) session D) application

Q.9 Which Layout Manager arranges components from left to right in their preferred sizes?

- A) BorderLayout B) GridLayout
- C) FlowLayout D) CardLayout

Q.10 Which networking class represents an Internet Protocol (IP) address?

- A) URL B) URI
- C) InetAddress D) SocketAddress

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

(10)

- 1 Swing components are generally platform independent.
- 2 Event listeners receive notifications only after they are registered with an event source.
- 3 A layout manager controls the arrangement of GUI components inside a container.
- 4 Socket programming enables communication between networked applications.
- 5 JDBC provides a standard API for accessing relational databases.
- 6 A PreparedStatement can improve performance when the same SQL statement is executed repeatedly.
- 7 Every servlet follows a defined life cycle managed by the servlet container.
- 8 JSP Expression Language simplifies access to JavaBeans and scoped variables.
- 9 JSTL provides predefined tags to reduce Java scripting code in JSP pages.
- 10 Session management helps maintain user-specific information across multiple HTTP requests.
