

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

Course	: MCA	Date	: 24/02/2026
Subject Code	: MCA-304	Time	: 03:00pm to 05:15pm
Subject Name	: Internet Programming with JAVA	Duration	: 02.15 Hours
		Max. Marks	: 70

Section A

Answer the following (Attempt any three) (30)

1. What is Swing? Explain the hierarchy of Swing classes and describe the fundamental differences between AWT and Swing.
2. Define JDBC. Explain the JDBC Architecture and the steps involved in connecting a Java application to a database.
3. Explain the Servlet Life Cycle in detail with the help of a diagram, including init(), service(), and destroy() methods.
4. Describe Socket Programming in Java. Explain the roles of the ServerSocket and Socket classes in TCP-based communication.
5. What is JSP? Explain the different types of JSP tags (Scriptlet, Expression, Declaration, and Directives) with examples.

Section B

Answer the following (Attempt any four) (20)

1. Explain the Event Handling mechanism in Java Swing. What is the role of Event Listeners and Event Sources?
2. Discuss the different types of JDBC Drivers (Type-1 to Type-4) and their advantages.
3. What are the various Swing components used to create tables and trees? Explain JTable and JTree.
4. Explain the concept of URL and URLConnection classes in Java Network Programming.
5. Describe the use of PreparedStatement in JDBC. Why is it preferred over a regular Statement?
6. Write a short note on Session Management in Servlets using Cookies and HttpSession.

Section C

Part – A (Multiple Choice Questions) (10)

- 1 Which package is primarily used for Java Swing components?
A. java.awt B. javax.swing
C. java.io D. java.net
- 2 Which JDBC driver is also known as the Thin Driver?
A. Type 1 B. Type 2
C. Type 3 D. Type 4
- 3 In the Servlet life cycle, which method is called only once when the servlet is first loaded?
A. service() B. init()
C. doGet() D. destroy()
- 4 Which class is used to establish a connection with a database in JDBC?
A. Connection B. DriverManager
C. Statement D. ResultSet

- 5 Which tag is used for expressions in JSP?
A. <% %> B. <%! %>
C. <%= %> D. <%@ %>
- 6 A Socket consists of:
A. IP Address B. Port Number
C. Both A and B D. MAC Address
- 7 Which Swing component is used to create a drop-down list?
A. JList B. JComboBox
C. JCheckBox D. JRadioButton
- 8 Which method of the ResultSet interface is used to move the cursor to the next row?
A. first() B. next()
C. last() D. previous()
- 9 HTTP is a _____ protocol.
A. Stateless B. Stateful
C. Connection-less D. Secure
- 10 Which interface must be implemented to create a Servlet?
A. HttpServlet B. GenericServlet
C. Servlet D. All of the above

Part – B (Do as Directed)

(10)

State whether the following statements are true or false

- 1 Swing components are platform-dependent like AWT.
- 2 The executeUpdate() method in JDBC is used for SELECT queries.
- 3 Servlets run on the client side in a web browser.
- 4 DatagramSocket is used for UDP-based network communication.
- 5 JSP is converted into a Servlet by the web container.
- 6 The 'super.init(config)' call is required in the init() method of a servlet.
- 7 JDBC Type 4 driver is written entirely in Java.
- 8 JFrame is a top-level container in Swing.
- 9 Cookies are stored on the server side to maintain user data.
- 10 The GET method in HTTP is generally less secure than the POST method.
