23SI-BCAP-MA-05-11001

Seat No. _____

BACHELOR OF COMPUTER APPLICATION Examination

BCA SEMESTER-5 NOVEMBER 2025 (NEP) NOVEMBER - 2025

CS –29: ADVANCE JAVA PROGRAMMING(J2EE)

Faculty Code : 003

Subject Code : 23SI-BCAP-MA-05-11001

Time : 2 Hours] **[Total Marks : 50**

Q.1 (A) Attempt the following. 3

(1) What is a Web Container?

(2) What does CRUD stand for in database operations?

(3) Name any two types of JDBC drivers.

Q.1 (B) Attempt any one of the following. 2

(1) Differentiate between a Two-Tier and a Three-Tier architecture.

(2) What is the purpose of the PreparedStatement interface in JDBC?

Q.1 (C) Atempt any one of the following. 5

(1) Draw and explain the JDBC Architecture, showing the main components and their interactions.

(2) Explain the purpose of the Connection, Statement, and ResultSet interfaces in JDBC.

Q.2 (A) Attempt the following. 3

(1) What is a Servlet?

(2) Which method in the servlet life cycle is called only once when the servlet is first loaded?

(3) What is the purpose of the web.xml file?

Q.2 (B) Attempt any one of the following. 2

(1) Explain the difference between doGet() and doPost() methods in HttpServlet.

(2) What is a Cookie and how is it used in session tracking?

Q.2 (C) Attempt any one of the following. 5

(1) Explain the complete life cycle of a Servlet with a neat diagram.

(2) Describe any two approaches for session tracking in servlets.

Q.3 (A) Attempt the following. 3

(1) What does JSP stand for?

(2) Name any two JSP Scripting Elements.

(3) What is the purpose of the page directive?

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Q.3 (B)	Attempt any one of the following. (1) List any four differences between a Servlet and a JSP page. (2) What are JSP implicit objects? Give two examples.	2
Q.3 (C)	Attempt any one of the following. (1) Explain the life cycle of a JSP page, describing the translation, compilation, and execution phases. (2) What are JSP Action Elements? Explain the use of , , and with a simple example for each.	5
Q.4 (A)	Attempt the following. (1) What are the three components of the MVC design pattern? (2) What does ORM stand for in the context of Hibernate? (3) Name any one type of Enterprise JavaBean (EJB).	3
Q.4 (B)	Attempt any one of the following. (1) What is Hibernate Query Language (HQL)? (2) Briefly explain the primary role of a Hibernate Session.	2
Q.4 (C)	Attempt any one of the following. (1) Explain the Model-View-Controller (MVC) architecture with a simple diagram. Describe the responsibility of each component. (2) Explain the core architecture of Hibernate with its key components like SessionFactory, Session, and Transaction.	5
Q.5 (A)	Attempt the following. (1) What is Dependency Injection (DI)? (2) What is the primary role of the Core Container in the Spring Framework? (3) State one key advantage of using Spring Boot.	3
Q.5 (B)	Attempt any one of the following. (1) Explain the concept of Inversion of Control (IoC). (1) What is a Spring Bean? Explain its purpose in the Spring framework.	2
Q.5 (C)	Attempt any one of the following. (1) Draw and explain the architecture of the Spring Framework, mentioning its important modules. (2) Explain the key components of Spring MVC, such as DispatcherServlet, Controller, and ViewResolver.	5

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