LNCT UNIVERSITY, BHOPAL

Enrolment No..LNCPBTC21096

CS-405 (A)
B.Tech (CS) (NEW BATCH)-IV SEMESTER
EXAMINATION [JUNE-2025]
ADV PROGRAMMING(JAVA)

Maximum Marks:70　　　　　　　　　　　　　　　**Time Allowed:3Hours**

Note:-Attempt all questions. Internal choices are given.

(SECTION –A)

1. **Short answer type questions (Attempt any five)**　　　　　　**[5x6=30]**

   i. Create a JSP page that accepts two numbers and displays their sum. Use scriptlets and expressions in your code.

   ii. Compare ServletContext and ServletConfig objects. What are their differences and typical use cases?

   iii. What are the different scopes available for Spring Beans? Provide examples with configuration styles.

   iv. Explain the different types of relationships in Hibernate (One-to-One, One-to-Many, etc.) with real-world examples.

   v. Discuss the process of form handling in Spring MVC using ModelAttribute and Thymeleaf integration.

   vi. How can pagination and sorting be implemented in Spring Boot REST APIs? Why are these features important in large datasets?

   vii. Develop a Spring Boot RESTful service with pagination and sorting functionality for displaying a list of products.

(SECTION–B)

2. **Lohg answer type questions (Attempt any Four)**　　　　　　**[4x10=40]**

   i. What are JSP scripting elements? Explain declarations, scriptlets, and expressions with examples..

   ii. What is Lazy vs Eager loading? Which is the default in OneToMany?

   iii. Compare Spring and Spring Boot. Why is Spring Boot preferred for rapid development?

   iv. Compare JPQL vs Native SQL in Hibernate. When should each be used?

   v. What is content negotiation in RESTful services? How does Spring Boot return JSON or XML responses?

   vi. Write a repository interface to handle CRUD operations on a Student entity.