

LNCT UNIVERSITY

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Enroll No.....

Class Roll No.....

Second Mid Semester Examination, May 2025

Subject Name: Advanced Java Programming (CS405)

Branch :CS Semester: 4<sup>th</sup>

Time 1:30 Hrs

Max. Marks 20

Note: All questions are compulsory. Write coding snaps wherever needed

**Ques.1: (a)** What are entity classes in JPA? Explain the use of annotations like @Entity, @Table, @Id, @GeneratedValue, and @Column with examples. (CO3 4Marks)

**b)** What is the difference between Eager and Lazy loading in JPA? How do they impact performance? Illustrate with an example. (CO3 3Marks)

OR

Describe different types of relationships in JPA (One-to-One, One-to-Many, Many-to-One, Many-to-Many). Give examples with appropriate annotations. Ques. (CO3 7Marks)

**Ques.2:** Explain the architecture of Spring Boot MVC. How do the Model, View, and Controller components interact? (CO4 7 Marks)

OR

**(a)** What is Thymeleaf and how is it integrated with Spring Boot MVC? Demonstrate how to pass data from the controller to the view using Thymeleaf. (CO4 4Mark)

**(b)** How does Spring Boot MVC handle form data and request parameters? Explain with examples using @RequestParam, @PathVariable, and @ModelAttribute. (CO4 3Mark)

**Ques.3(a)** What is REST architecture? Explain key principles of REST.

(CO5 3 marks)

**(b).** What is content negotiation in RESTful services? How does Spring Boot support returning data in multiple formats like JSON and XML? .

(CO5 3 marks)

OR

Write short note on-@RestController, @GetMapping, @PostMapping, @RequestBody and @ResponseBody. (CO5 6 marks)