**23CS2410: Spring Boot**

**ASSIGNMENT-1**

**Total Marks: 20 Marks - 15 (Assignment) + 5 (Viva)**

**Submission Deadline: On or before 30th May 2025**

**Submission Venue: Dr. Gokulakrishnan S, Cabin – 536, 5th Floor**

**Instructions:**

1. Answer all 25 short questions based on the Spring Boot syllabus.
2. Write your answers neatly on A4 sheets using blue or black ink.
3. Each student must submit the assignment individually. Group submissions will not be accepted.
4. Mention your name, USN, and section clearly on the first page of the assignment.
5. Staple all pages together properly. Do not submit loose sheets.
6. At the time of submission, a short viva (5 marks) will be conducted based on your answers.
7. Ensure your understanding of the topics—you are expected to explain any of your answers if asked.
8. Late submissions will not be entertained unless prior permission is taken with a valid reason.

**Questions**

**UNIT – I: Introduction to Spring Boot**

1. What are the key differences between Spring and Spring Boot?
2. Mention any two benefits of using Spring Boot.
3. What is the purpose of the @SpringBootApplication annotation?
4. What file is used for configuring Maven in a Spring Boot project?
5. Name any two Spring Boot starter dependencies and their usage.

**UNIT – II: Spring Boot Application Development**

1. Define Dependency Injection with respect to Spring Boot.
2. What is the use of @RestController in a Spring Boot application?
3. Write the purpose of the @GetMapping and @PostMapping annotations.
4. How does RestTemplate help in consuming REST services?
5. What is the significance of application profiles in Spring Boot?

**UNIT – III: Data Access and Security**

1. What is the function of Spring Data JPA in a Spring Boot application?
2. Mention one difference between JPQL and native SQL queries.
3. Name any two types of entity relationships handled by JPA.
4. How can you customize user authentication using Spring Security?
5. Why is CSRF protection important in web applications?

**UNIT – IV: Advanced Features and Reactive APIs**

1. What is the use of Spring Boot Actuator?
2. What is the difference between Spring MVC and Spring WebFlux?
3. Name any two annotations used to test reactive controllers.
4. How do you secure a reactive web API using Spring Security?
5. What is the role of functional request handlers in Spring WebFlux?

**UNIT – V: Persisting Data Reactively**

1. What is the purpose of Spring Data's reactive programming model?
2. Name any two reactive repositories supported by Spring Boot.
3. What is the role of domain type mapping in reactive MongoDB repositories?
4. How does Spring Data handle the conversion between reactive and non-reactive types?
5. Why is data modelling important when working with Cassandra in Spring applications?

**COURSE COORDINATOR**

Dr.GOKULAKRISHNAN.S