SPRING BOOT

Assignment-2 (Descriptive) – 20 Marks
Deadline: 05-12-2024

Instructions:

- This is a handwritten assignment. Please ensure that all answers are written legibly on A4 sheets.
- Submit a hard copy with soft binding to my cabin on or before the deadline.
- Ensure clarity and completeness in your answers, as this assignment is worth **20 marks.**

Questions – Write short answers for the following

1. What is the Spring Framework?
2. What is the main purpose of Spring Boot.
3. What problem does Spring Boot solve compared to the traditional Spring framework?
4. Describe the evolution of Spring Boot.
5. List two main benefits of using Spring Boot.
6. How has Spring Boot changed the approach to Spring application development?
7. Mention two benefits of using Spring Boot for Java application development.
8. How does Spring Boot help in reducing boilerplate code?
9. How is Spring Boot different from the traditional Spring framework?
10. Explain one way Spring Boot simplifies the dependency management compared to traditional Spring.
11. Name the tools required to set up a Spring Boot development environment.
12. Why is Java installation necessary for Spring Boot development?
13. What is the purpose of Maven/Gradle in a Spring Boot project?
14. Which IDEs are commonly used for Spring Boot development?
15. What is the command to create a new Spring Boot project using Spring Initializr?
16. Name the annotation used in the main class of a Spring Boot application.
17. What is the purpose of the @SpringBootApplication annotation?
18. What are Spring Boot starters?
19. Give an example of a commonly used Spring Boot starter.
20. What is the purpose of the pom.xml or build.gradle file in a Spring Boot project?
21. Describe the main application class in a Spring Boot project.
22. What is the significance of the @SpringBootApplication annotation?
23. What is Dependency Injection in Spring Boot?
24. How does Dependency Injection benefit application development?
25. What is the purpose of @ConfigurationProperties in Spring Boot?

26. What is the role of Spring Boot profiles.
27. What is auto-configuration in Spring Boot?
28. Why is auto-configuration beneficial for Spring Boot applications?
29. What are REST principles? And Define a RESTful Web Service.
30. What is the role of @RestController in Spring Boot?
31. Differentiate between @RequestMapping and @GetMapping annotations.
32. List two operations that can be performed using RestTemplate.
33. What is Spring Data JPA, and what are its primary benefits?
34. What is the purpose of @Entity in JPA.
35. What is the function of a repository in Spring Data JPA?
36. How can you connect a Spring Data JPA application to a MySQL database?
37. What is the purpose of persistence.xml in JPA configuration?
38. Mention two ways to configure a database connection in a Spring Boot application.
39. What is JPQL in Spring Data JPA, and how is it different from SQL?
40. How do you define a One-to-One relationship in JPA?
41. What is a One-to-Many relationship, and how is it implemented in JPA?
42. How do you enable Spring Security in a Spring Boot application?
43. What is an in-memory user store in Spring Security?
44. What is the purpose of Spring Boot Actuator?
45. Name two key features of Spring Boot that aid in building microservices.
46. What is the role of Spring Boot Testing?
47. What is Spring Boot Auto-Configuration, and why is it helpful?
48. Mention one tool used for testing GET requests in Spring WebFlux.
49. List two types of requests that can be tested in reactive controllers.
50. Name one advantage of using reactive APIs in a microservices environment.