

4. `switch(rollno%5)`

case 0: A restaurant deploys a web application for taking online orders. The team plans to provide a list of customized platters for 'home delivery' apart from the 'dine-in' option. Answer the following if the application is developed using the Spring framework.

- a) How can dependency injection be implemented in this application?
- b) Write the role of object relational mapping in extracting a platter information from the database. Let us assume that a suitable database table exists.

6+4=10

case 1: c) There are two currency classes-INR and GBP. For an online retail store that handles international customers, how can you calculate the total price of a cart with respective indirect taxes (based on respective countries regulations) ? Write the basic components of dependency injection for this application and the structure of the Spring Controller class.

- d) What is data marshalling? Explain with necessary code snippets.

6+4=10

case 2: e) Discuss *Cross-site request forgery based* vulnerability and how can it be prevented.

- f) Write appropriate code snippets to insert username and password pairs at the backend.

5+5=10

case 3: g) In the Spring framework, programmers mostly build plain old java objects(POJO). How does the framework link them to the HTTP requests? Which design pattern is applied here? Discuss.

- h) What is authorization? How can you enable authorization check for a URL? Only write the filter chain part.

5+5=10

case 4: An online medicine store sells different types of medicines. When a customer enters a generic name, the application asks for other details such as company names and price ranges.

- i) Write appropriate code snippets to store medicine details and search using JPA. Don't need to write the database properties in application.properties file.

- j) Differentiate between `@RestController` and `@Controller`.

8+2=10