

- N.B. :1) Question No.1 is compulsory.
 2) Attempt any THREE from the remaining questions.
 3) Figures to the right indicate full marks.

- Q1. (a) Explain JSP Architecture with Block Diagram [5]
 (b) Explain JSP implicit object with syntax. [5]
 (c) What is SpringIoC and Dependency Injection. [5]
 (d) Explain JdbcTemplate class with configuration file syntax. [5]
- Q2. (a) What is Dependency Injection in Spring and its types. Write the code on Setter Injection using Annotations approach. [10]
 (b) Why do we need Generic? Explain with example of how Generic make a program more flexible. [10]
- Q3. (a) Explain Spring Boot RESTfulWebService with example. [10]
 (b) Explain in details Map interface and its sub types with its all operation with proper syntax and example [10]
- Q4. (a) what is Lambda Expression? Explain syntax and use of Lambda expressions with a suitable program. [10]
 (b) What is Bean Autowiring and its types of mode. [10]
- Q5. (a) Explain Collection Framework in Java. Gives example on sorting of array using ArrayList and Vector. [10]
 (b) Explain Aspect Orineted Programming in Spring and explain different types of advices use in it.. [10]
- Q6. (a) Enlist all JSP standard actions with syntax and write Login page program using JSP standard action with proper credentials validation. [10]
 (b) Explain Map hierarchy. Explain any two operations with example. [10]
