



R20 Regulation

Subject code: 3E8EF

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech VIII Semester Supplementary Examinations, November 2025

STACK TECHNOLOGIES (CSE)

Maximum Marks: 70

Date: 25.11.2025

Duration: 3 hours

- Note:
1. This question paper contains two parts A and B.
 2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
 3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
 4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10X2M=20 Marks)		Marks	CO	Bloom Tx
1	What is the role of annotations in Hibernate?	2M	1	Remember
2	Describe the Persistence Life Cycle in Hibernate.	2M	1	Understand
3	What is dependency injection in Spring framework?	2M	2	Understand
4	State the purpose of REST APIs in Spring MVC.	2M	2	Understand
5	Define Spring Boot and its key benefits.	2M	3	Remember
6	Differentiate between Spring MVC and Spring Boot.	2M	3	Understand
7	What is the role of lifecycle methods in React components?	2M	4	Understand
8	List the steps to integrate a third-party library in React.	2M	4	Remember
9	What is a microservice and how is it different from a monolithic application?	2M	5	Understand
10	How does Spring Boot simplify microservices development	2M	5	Understand

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	Bloom Tx
11	a) Explain the process of configuring Hibernate in a web application. b) Discuss the four main states of the Hibernate Lifecycle.	5M 5M	1	Understand
OR				
12	Describe Hibernate Session usage and the different querying mechanisms available.	10M	1	Understand
13	a) Explain how to wire beans using XML and annotations in Spring. b) Describe the integration of Spring with JDBC and the benefits it offers.	5M 5M	2	Understand
OR				
14	Illustrate how to develop RESTful services using Spring MVC with suitable examples.	10M	2	Understand

15	a) Define Spring Boot and outline the structure of a Spring Boot application. b) Discuss how Spring Boot handles data access with examples.	5M 5M	3	Understand
	OR			
16	Compare Spring Boot with traditional Spring applications and explain its advantages.	10M	3	Understand
17	a) Explain data flow and props usage in React components. b) Describe the React component lifecycle and its significance in UI rendering.	5M 5M	4	Understand
	OR			
18	Illustrate how to build a dynamic form in React and integrate third-party libraries.	10M	4	Understand
19	a) Analyze the key components of microservices architecture. b) Explain the process of integrating React with Spring Boot in a microservice application.	5M 5M	5	Understand
	OR			
20	Design a simple Spring Boot based microservice and demonstrate its integration with React.	10M	5	Understand