



R20 Regulation

Subject code: 3E6FC

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VI Semester Regular/Supplementary Examinations, July 2024

STACK TECHNOLOGIES (Professional Elective) (INFORMATION TECHNOLOGY)

Maximum Marks: 70

Date:22.07.2024 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)	CO	Bloom Tx
1	What are the four states of an object in the Hibernate persistence life cycle?		1	L1
2	How do you configure Hibernate with annotations?		1	L3
3	What is the role of the @RestController annotation in Spring MVC?		2	L1
4	What is JdbcTemplate in Spring?		2	L1
5	How do you start a Spring Boot application?		3	L3
6	What is a Spring Boot Starter?		3	L1
7	What are props in React?		4	L1
8	How do you create a controlled component in React?		4	L3
9	What is a module in Node.js?		4	L1
10	What is Express.js?		4	L1

Part-B

Answer All the following questions.		(5×10M=50Marks)		
11	Explain the architecture of Hibernate 3 and discuss its key components and how they interact with each other. (10M)		1	1
OR				
12	Describe the role of the Session interface in Hibernate. Explain how sessions are created, used, and managed in a Hibernate application. (10M)		1	2
13	a) Explain the core principles of the Spring Framework and how they contribute to building robust Java applications. (5M) b) Explain the concept of bean scopes in Spring. (5M)		2	1
OR				
14	Discuss the different ways of configuring beans in Spring (XML, Java-based and annotation-based configuration). Provide examples. (10M)		2	2
15	Describe the architecture of a Spring MVC application. Detail the role of each major component involved. (10M)		2	2

	OR		
16	Describe components of spring boot MVC in detail. (10M)	3	2
17	a) Describe the process of creating and rendering a React component? (5M) b) Describe how to handle form submissions in React. (5M)	3	2
	OR		
18	Explain the React component lifecycle. Describe the different phases and key lifecycle methods associated with each phase. (10M)	3	2
19	a) Explain the core features of Node.js. How does it differ from traditional server-side technologies? (5M) b) Describe the Node.js event-driven architecture and non-blocking I/O. (5M)	4	2
	OR		
20	Demonstrate express .JS routing. (10M)	4	2