



R22 Regulation

Subject code: 4P6EA

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VI Semester Supplementary Examinations, November 2025

FULL STACK DEVELOPMENT

(CSE)

Maximum Marks: 60

Date: 13.11.2025

Duration: 3 hours

- Note:
1. This question paper contains two parts A and B.
 2. Part A is compulsory which carries 10 marks. Answer all questions in Part A.
 3. Part B consists of 5 Units. Answer any one full question from each unit.
 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 (10X1M=10 Marks)		Marks	CO	Bloom Tx
1.a)	What does the ls command do in UNIX?	1M	CO1	1
b)	Which GitHub feature is used to contribute to someone else's project?	1M	CO1	1
c)	What does AJAX stand for?	1M	CO2	1
d)	Show the symbol is used to access properties of an object in JavaScript.	1M	CO2	2
e)	What keyword is used in Redux to send data to the reducer?	1M	CO3	1
f)	Define the purpose of the useParams() hook in React Router?	1M	CO3	1
g)	Which component of MVC handles user input?	1M	CO4	1
h)	What is the default build automation tool used in Spring Boot projects?	1M	CO4	1
i)	Which normal form removes transitive dependencies?	1M	CO5	1
j)	Name a popular cloud provider commonly used for hosting web applications.	1M	CO5	1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	Bloom Tx
2	a) Explain the purpose and commonly used commands of the UNIX command-line interface (CLI) for web development tasks.	5M	CO1	2
	b) Differentiate between inline CSS, internal CSS, and external CSS. Mention when to use each type and their pros and cons..	5M		4
OR				
3	a) Write HTML and CSS code to create a simple styled webpage with a heading, paragraph, and button. Explain how CSS is used to enhance visual appeal.	5M	CO1	3
	b) Explain the role of a web server in the process of web development and hosting. Mention how it interacts with HTML pages.	5M		3
4	a) Explain the object-oriented programming (OOP) concepts in JavaScript with examples. How do objects and prototypes support reuse?	5M	CO2	2
	b) Compare JavaScript and jQuery for DOM manipulation. Which one is more efficient for beginners and why?	5M		4
OR				

5	a) What is AJAX? Explain its working with a basic example of how AJAX is used to fetch data from a server without reloading the page. b) Explain the structure and syntax of JSON. How is JSON used in frontend development for data storage or exchange.	5M 5M	CO2	3 2
6	a) What is a Single Page Application (SPA)? Explain how React and React Router work together to create SPAs. b) How does React handle client-server communication? Write a basic example using <code>fetch()</code> to retrieve data from a REST API.	5M 5M	CO3	3 2
OR				
7	a) What is the Flow architecture pattern in React applications? Explain how data flows in one direction using props and state. b) What are the advantages of using Redux with React in large applications? Explain with suitable examples.	5M 5M	CO3	3 2
8	Explain the Model-View-Controller (MVC) architectural pattern in detail. Illustrate how MVC separates concerns and improves scalability in a web application.	10M	CO4	4
OR				
9	How does Maven manage dependencies and automate the build process in Java web development? Explain with examples of common Maven commands.	10M	CO4	3
10	Design a relational schema for a student-course registration system. Identify the primary keys, foreign keys, and normalize the schema up to 3NF.	10M	CO5	6
OR				
11	Discuss the integration of SQL database with a Spring Boot application and the steps to deploy the complete app to a cloud service.	10M	CO5	5