

THE KAVERY ENGINEERING COLLEGE
(An Autonomous Institution)

B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2025

Fifth Semester

Information Technology

IT3501 - Full Stack Web Development

Regulations – 2021

Duration : 3 Hrs

Maximum : 100 Marks

PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
1.	Explain the role of a User in the web development framework.	L2	1	2
2.	Illustrate backend services and their significance in web development.	L2	1	2
3.	State some built-in modules that come with Node.js.	L1	2	2
4.	List out the steps in publishing a node.js packaged module to the npm registry.	L1	2	2
5.	What is the purpose of creating user accounts in MongoDB, and how do you create a new user?	L1	3	2
6.	Provide an example for a simple CRUD (Create, Read, Update, Delete) operation in MongoDB using Node.js.	L3	3	2
7.	What is the role of the Request and Response objects?	L1	4	2
8.	How does the *ngFor directive work in Angular, and when would you use it?	L1	4	2
9.	State the purpose of Webpack in a React application.	L1	5	2
10.	What is server-side rendering in React, and how does it differ from client-side rendering?	L1	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
11.	a i Compare and contrast the traditional three-tier architecture with the Full Stack Web Development architecture.	L2	1	8
	ii Summarize the advantages and disadvantages of each approach.	L2	1	8
	Or			
	b Explain full stack development? Assume that you are assigned the responsibility of developing a web application for online booking for vehicle services and washing. As a web developer explain how to choose a technology stack for this web application development.	L2	1	16
12.	a Demonstrate the step-by-step process of setting up Node.js on your computer and create a basic Node.js application that uses the <i>http</i>	L2	2	16

module to set up a simple server. The server should respond with "Hello, World!" when a user visits the root URL.

Or

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| | b | Summarize the role of Event Emitter in Node.js and how it facilitates communication between different parts of an application. Provide a real-world scenario where EventEmitter can be applied effectively. | L2 | 2 | 16 |
| 13. | a | Develop a simple quiz app in React where users can answer multiple-choice questions. Explain how you would use components and state to manage questions, track the selected answers, and display results at the end of the quiz. | L3 | 3 | 16 |
| | | Or | | | |
| | b | Build a Node.js application for online marketing that connects to a MongoDB database and Implement a simple CRUD functionality for managing a list of products in the database. | L3 | 3 | 16 |
| 14. | a | Assume you are building a simple login form in Angular, explain how you would use data binding to capture and validate user input for fields like username and password, and display a success message after form submission. | L4 | 4 | 16 |
| | | Or | | | |
| | b | In an online movie database, you need an endpoint to retrieve movie details based on user input (such as movie ID or title) using the request and response objects in Express. Explain how you would use the request object to access user input and the response object to send the movie data back to the client. | L4 | 4 | 16 |
| 15. | a i | Develop a simple React component with an input field for a user to enter their name. As the user types, the input should be immediately reflected in a greeting message below the input. Apply React state to handle the changes in the input field and render the updated greeting message in real-time. | L3 | 5 | 10 |
| | ii | Create a button in React that, when clicked, increases the value of a counter. Use React state to store and update the counter value. | L3 | 5 | 6 |
| | | Or | | | |
| | b | Construct a simple React application that fetches and displays a list of users from an Express REST API. Explain how you would structure the application and manage state to handle the API data. | L3 | 5 | 16 |