

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, NOV/DEC 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>BTL</i>	<i>CO</i>	<i>Marks</i>
1.	List the major layers in a full stack web application and their roles.	L2	1	2
2.	Summarize the purpose of MVC architecture in web applications.	L2	1	2
3.	Identify the role of Node Package Manager (NPM) in dependency management.	L2	2	2
4.	Differentiate synchronous and asynchronous operations in Node.js.	L2	2	2
5.	Outline the structure of documents in MongoDB.	L2	3	2
6.	Explain how indexing improves MongoDB query performance.	L2	3	2
7.	Outline the role of request and response objects in Express.	L2	4	2
8.	Infer the need for built in directives.	L2	4	2
9.	Describe how React's virtual DOM enhances rendering efficiency.	L2	5	2
10.	Classify the different phases of a React component's lifecycle.	L2	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 Compare various web development stacks such as LAMP, MEAN, and MERN in terms of scalability and ease of deployment.	L4	1	16
	Or			
	B Analyze the role of Express, Angular, Node, MongoDB, and React in implementing the MERN stack.	L2	1	16
12.	a i Demonstrate the steps to install Node.js and create a minimal server.	L3	2	8
	ii Apply events and listeners to build a timer-based Node.js script.	L3	2	8
	Or			
	b Illustrate an error-handling strategy in asynchronous Node.js applications.	L3	2	16
13.	a An e-commerce company wants to manage its product catalog of electronics. Apply CRUD operations in MongoDB to insert, update, retrieve, and delete product information (name, price, stock, category) for the online storefront.	L3	3	16

Or

	b	A food-delivery platform requires real-time order tracking and validation of order details before saving to the database. Integrate a Node.js backend with MongoDB using Mongoose, ensuring schema validation for fields such as order ID, delivery address, and payment status.	L3	3	16
14.	a	Outline the process to configure routes in the given student portal express application.	L3	4	16
		Or			
	b	Implement the angular application include a component, a module and bootstrapper.	L3	4	16
15.	a	Examine the MERN stack facilitate a development of basic react applications.	L4	5	16
		Or			
	b	Analyze the workflow of React Router for client side navigation.	L4	5	16