Enrollment No./Seat No.: _____

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA - SEMESTER - II EXAMINATION - WINTER 2025

Subject Code: MC02094041   **Date: 20-11-2025**

Subject Name: Full Stack Development

Time: 02:30 PM TO 05:00 PM   **Total Marks: 70**

Instructions

1. Attempt all questions.

2. Make suitable assumptions wherever necessary.

3. Figures to the right indicate full marks.

4. Use of simple calculators and non-programmable scientific calculators are permitted.

		Marks
Q.1	**(a)** Explain the semantic tags of HTML5 and their importance.	**07**
	(b) What is CSS Flexbox? Explain its properties.	**07**
Q.2	**(a)** What is NPM? Explain its purpose and significance in the NodeJS.	**07**
	(b) What is the Express framework? Discuss its features and advantages.	**07**

OR

	(b) What is NodeJS? Discuss its role and significance in server-side JavaScript development.	**07**
Q.3	**(a)** Explain the concept of NoSQL databases. How do they differ from traditional relational databases?	**07**
	(b) Provide steps to connect a NodeJS or ExpressJS application to a MongoDB database.	**07**

OR

	(a) What are cookies and how can they be managed in NodeJS or ExpressJS applications?	**07**
	(b) What is MongoDB? Discuss its architecture and primary features.	**07**
Q.4	**(a)** What is JSX, and why is it used in React applications?	**07**
	(b) What is ReactDOM? Explain in detail.	**07**

OR

	(a) What is LocalStorage in JavaScript? How does it differ from SessionStorage and cookies?	**07**
	(b) Explain the purpose of the Fetch API in React applications.	**07**
Q.5	**(a)** Explain the concepts of horizontal scaling and vertical scaling with examples.	**07**
	(b) Explain Docker in detail.	**07**

OR

	(a) Explain Kubernetes in detail.	**07**

(b) Explain Virtual Private Cloud (VPC) in detail.   **07**

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