

# CBBCS SCHEME



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MMCB311B

Third Semester MCA Degree Examination, Dec.2025/Jan.2026

## Rich Internet Application Development

Time: 3 hrs.

Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.  
2. M : Marks, L: Bloom's level, C: Course outcomes.

Module - 1				M	L	C
Q.1	a.	List the main stages in the evolution of Rich Internet Applications (RIA) and describe each stage briefly.	10	L2	CO1	
	b.	Demonstrate the use of JavaScript map() and filter() functions with short examples.	10	L2	CO1	
OR						
Q.2	a.	Identify the differences between var, let, and const in ES6 and state where each is preferred.	10	L2	CO1	
	b.	Illustrate the use of JavaScript classes by creating a simple class for a student and showing how objects are created.	10	L2	CO1	
Module - 2						
Q.3	a.	Summarize the key features of React that make it suitable for building Single Page Applications.	10	L2	CO2	
	b.	Construct a simple React functional component that displays a welcome message and uses props.	10	L2	CO2	
OR						
Q.4	a.	Describe how navigation occurs in a Single Page Application with the help of a basic routing example.	10	L2	CO2	
	b.	Write a small React program that updates a counter when a button is clicked.	10	L2	CO2	
Module - 3						
Q.5	a.	Present the steps involved in sending a request using XMLHttpRequest and receiving data from a server.	10	L2	CO3	
	b.	Show how JSON data is structured by creating a sample JSON object for a book record.	10	L2	CO3	
OR						
Q.6	a.	Demonstrate how the Fetch API handles errors using try-catch with a short code snippet.	10	L2	CO3	
	b.	List the commonly used HTTP methods and state the purpose of each method.	10	L2	CO3	

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### Module - 4

Q.7	a.	Use the useState hook to build a simple React component that manages a login form with two input fields.	10	L2	CO4
	b.	Outline the role of Material UI in React development and mention four useful components.	10	L2	CO4

### OR

Q.8	a.	Describe how useEffect can be used for loading data from an API when a component is mounted.	10	L2	CO4
	b.	Identify any three responsive design practices and state how they support mobile-friendly layouts.	10	L2	CO4

### Module - 5

Q.9	a.	List the steps involved in preparing a React project for deployment on Vercel.	10	L3	CO5
	b.	State the purpose of linting and mention common issues detected by linters in web applications.	10	L3	CO5

### OR

Q.10	a.	Describe how CSRF tokens are used for securing form submissions in web applications.	10	L3	CO5
	b.	Summarize the process of writing a basic unit test in Jest for a function that adds two numbers.	10	L3	CO5

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