SWARNANDHRA COLLEGE OF ENGINEERING AND TECHNOLOGY
(AUTONOMOUS)
SEETHARAMPURAM, NARSAPUR-534280, WG- DT, AP
DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS

TEACHING PLAN

Course Code	Course Title	Year / Sem	Branch	Contact Hr/ week	Academic Year
24MC3L01	FULL STACK DEVELOPMENT LAB	II/I	MCA	3	2025-26

Course objectives:

To understand the essential javascript concepts for web development.

- To style Web applications using bootstrap.
- To utilize React JS to build front end User Interface.
- To understand the usage of API's to create web applications using Express JS.
- To store and model data in a No SQL database.

Course Outcomes (COs):

Course Outcomes		Knowledge Level (K)#
CO1	Apply JavaScript fundamentals (variables, arrays, strings, functions) for basic programming tasks.	K3
CO2	Demonstrate object-oriented concepts and implement interactive web pages using DOM and event handling.	K4
CO3	Develop functional components in React with state and hooks for dynamic UI interaction.	K5
CO4	Build RESTful APIs using Express with request handling and middleware.	K5
CO5	Create a full-stack MERN application integrating MongoDB, Express, and React for data-driven solutions.	K6

SNO	EXERCISE/PROGRAM	PROPOSED NUMBER OF LABS
	EXERCISE 1	
1	a. Write a script that Logs "Hello, World!" to the console. Create a script that calculates the sum of two numbers and displays the result in an alert box. b. Create an array of 5 cities and perform the following operations: Log the total number of cities. Add a new city at the end. Remove the first city. Find and log the index of a specific city.	1
	EXERCISE 2	

2	a. Read a string from the user, Find its length. Extract the word "JavaScript" using substring() or slice(). Replace one word with another word and log the new string. Write a function isPalindrome(str) that checks if a given string is a palindrome (reads the same backward).	1
	EXERCISE 3	
3.	Create an object student with properties: name (string), grade (number), subjects (array), displayInfo() (method to log the student's details) Write a script to dynamically add a passed property to the student object, with a value of true or false based on their grade. Create a loop to log all keys and values of the student object.	1
	EXERCISE 4	
4.	Create a button in your HTML with the text "Click Me". Add an event listener to log "Button clicked!" to the console when the button is clicked. Select an image and add a mouseover event listener to change its border color. Add an event listener to the document that logs the key pressed by the user.	1
	EXERCISE 5	
5.	Build a React application to track issues. Display a list of issues (use static data). Each issue should have a title, description, and status (e.g., Open/Closed). Render the list using a functional component.	1
	EXERCISE 6	
6.	Create a component Counter with A state variable count initialized to 0. Create Buttons to increment and decrement the count. Simulate fetching initial data for the Counter component using use Effect (functional component) or component Did Mount (class component). Extend the Counter component to Double the count value when a button is clicked. Reset the count to 0 using another button.	1
	EXERCISE 7	
7	Install Express (npm install express). Set up a basic server that responds with "Hello, Express!" at the root endpoint (GET /). Create a REST API. Implement endpoints for a Product resource: GET : Returns a list of products. POST: Adds a new product. GET /:id: Returns details of a specific product. PUT /:id: Updates an existing product. DELETE /:id: Deletes a product. Add middleware to log requests to the console. Use express.json() to parse incoming JSON payloads.	1
	EXERCISE 8	
8	Install the MongoDB driver for Node.js. Create a Node.js script to connect to the shop database. Implement insert, find, update, and delete operations using the Node.js MongoDB driver. Define a product schema using Mongoose. Insert data into the products collection using Mongoose. Create an Express API with a /products endpoint to fetch all products. Use fetch in React to call the /products endpoint and display the list of products. Add a POST /products endpoint in Express to insert a new product. Update the Product List, After adding a product, update the list of products displayed in React.	1

(M. RAMA BHADRA RAO)

Faculty **Head of the Department** **Principal**