Charotar University of Science and Technology
Devang Patel Institute of Advance Technology and Research
Department of Information Technology

Subject: Full Stack Web Development   **Semester: 5**

Subject Code: IT357   **Academic Year: 2023-24**

Course Outcomes (COs):

After completion of the course students will be able to:

1. Understand various technologies and trends impacting Single Page Web applications.
2. Apply a deep knowledge of MVC (Model View Controller) architecture, making the development process easier and faster using open-source technologies.
3. Implement UI-UX using React.js framework and Responsive web designing for Web Applications.
4. Demonstrate the use of JavaScript to fulfil the essentials of front-end development to back-end development.
5. Understand the use of MongoDB as an open-source NoSQL database to store and retrieve information.
6. Create a Real-time responsive web application using MERN STACK technologies.

Practical List

Sr. No.	AIM	Hrs	COs
1	Install & Configure Visual Studio Code as an IDE, setup an environment for React by downloading Node.js and install React framework along with its packages. Understand the folder structure used by React and develop a "Hello World Application".	4	1,2
2	Implement React Routing for navigating 5 different webpages. Design a responsive navbar in ReactJS by using media queries, Material-UI/React-Bootstrap.	4	2
3	Create React Sidebar Navigation Menu for a webpage. Implement the concept of React Hooks for backward compatibility and faster user experience.	4	3

4	Create simple Application of React Todo List. Implement the concepts of useState, useEffect, props, useRefs. Also use JavaScript functions for event handling.	6	2,3
5	Design an attractive Login and Registration form using Material-UI. Use Validations to validate the errors and prompt the errors on the webpage.	4	3
6	Perform Create, Read, Update and Delete Operations using Node.js, Express server and Mongo DB. Use React Framework for developing your user interface. Use Rest APIs, CORS for client-server communication.	6	4,5
7	MERN stands for MongoDB, Express, React, Node and these four things added to make the stack. Create a project with this stack and implement Register and Login system for your project.	6	3,4,5
8	Build an exact similar clone of any video streaming web application like Netflix. Your web application should contain following things: 1. Get all the Movies/TV Shows on the Home page through TMDB API Key. 2. Build the animated rows to display the contents cards. 3. Build the Navbar. 4. Build the Banner. 5. Add popups to show the trailer of Movies/TV Shows when clicked on it. Finally, host your web application on Google Firebase and push the code to your GitHub Repository to enhance your GitHub Profile.	6	3,4,5,6
9	Build an exact similar clone of any social media web application like Instagram/LinkedIn/WhatsApp/Twitter etc. Your web application should contain following things: 1. Build a Login/Signup. 2. Build the sidebar. 3. Chatting can be done between 2 users. 4. Build the rows to display the recent chats. 5. Build the sidebar. Finally, host your web application on Google Firebase and push the code to your GitHub Repository to enhance your GitHub Profile.	6	3,4,5,6
10	Develop a creative, attractive and Responsive Web Application of your choice on MERN Stack. Host your web application on Google Firebase and push the code to your GitHub Repository to enhance your GitHub Profile.	6	3,4,5,6