

## **Full stack Development (MERN)**

### **❖ Module 1: Introduction/Overview**

- Overview about the Course
- Introduction to the course and its objectives.
- The role of MERN stack in modern web development.
- 1.2 What is MERN Stack?
- Understanding the components of the MERN stack.
- How Mongo DB, Express.js, React, and Node.js work together.

### **❖ Module 2: Front-End Development**

#### **2.1 HTML:-**

- 2.1.1 Introduction to HTML
- Page structure, tags, and elements.
- Text formatting and semantic HTML.
- Accessibility considerations.
- 2.1.2 Beginner to Advanced HTML
- Linking pages, creating hyperlinks.
- Working with forms and input elements.
- Using iframes for embedding content

#### **2.2 CSS:-**

- 2.2.1 Introduction to CSS
- CSS selectors, the box model, and basic properties.
- Typography and text formatting.
- 2.2.2 Advanced CSS
- Advanced CSS properties.
- Responsive design techniques.
- Mastering Flexbox, Grid, transitions, and animations.

## **2.3 Bootstrap:-**

- 2.3.1 Bootstrap Library
- Introduction to the Bootstrap framework.
- Setting up and configuring Bootstrap.
- 2.3.2 Using Utilities and Components
- Leveraging Bootstrap utilities for styling.
- Exploring and customizing Bootstrap components.

## **2.4 JavaScript ES6:-**

- 2.4.1 Introduction to JavaScript
- Basic concepts and JavaScript's role in web development.
- 2.4.2 Data Types and Variables
- Understanding data types and declaring variables.
- 2.4.3 Operators, Conditional Statements, and Loops
- Exploring operators, control structures, and loops.
- 2.4.4 Functions and Objects
- Writing functions and working with objects.
- Using arrays, array methods, and destructuring.
- 2.4.5 Asynchronous JavaScript and the DOM
- Introduction to the Document Object Model.
- Handling asynchronous JavaScript, including AJAX

## **2.5 React:-**

- 2.5.1 Introduction to React
- An overview of React and its components.
- Setting up a React environment and understanding JSX.
- 2.5.2 Components, Props, and State
- Creating and utilizing components.
- Passing and managing props and state.
- 2.5.3 Handling Events and Conditional Rendering
- Event handling and conditional rendering.
- Working with lists, keys, and forms.
- 2.5.4 Styling in React and Routing
- Styling React components.
- Implementing routing with React Router.
- 2.5.5 React Hooks and State Management
- Introduction to React hooks.
- Managing state.

## **2.6 Redux:-**

- 2.6.1 Basics of Redux
- Understanding the Redux state management library.
- Setting up the Redux store.
- 2.6.2 Designing the Store and Reducers
- Designing the Redux store.
- Implementing reducer functions.
- 2.6.3 Dispatching Actions and Action Types
- Dispatching actions to modify state.
- Defining action types and action creators.

## **❖ Module 3: Back-End Development**

### **3.1 Node.js:-**

- 3.1.1 Node.js Setup and Core Modules
- Installing and configuring Node.js.
- Exploring core Node.js modules.
- Using Node Package Manager (npm).
- 3.1.2 Web Server and Advanced Concepts
- Creating a web server with Node.js.
- Handling authentication and authorization.
- Managing file uploads and error handling

### **3.2 Express.js:-**

- 3.2.1 Server and Routing
- Setting up an Express.js server.
- Implementing routing and route handling.
- 3.2.2 Express Middleware
- Understanding and using middleware in Express.js.

### **3.3 MongoDB:-**

- 3.3.1 MongoDB Setup and CRUD Operations
- Setting up and configuring MongoDB.
- Performing CRUD operations with MongoDB.
- 3.3.2 Using MongoDB with Mongoose
- Introduction to Mongoose for schema-based modeling.

#### **Module 4: Git:-**

- 4.1 Git Fundamentals
- Introduction to version control with Git.
- Git commands for version tracking and collaboration

#### **Course Conclusion:**

- Course Recap and Final Project
- Reviewing key concepts from the course.
- Completing a final project to demonstrate your MERN stack skills.

**In between, we will be conducting doubt sessions and will be handing over assignments based on topics from each modules.**

- Interview preparation
- Interview Live Questions
- HR techniques
- Technical Round preparation
- Sessions as per company perspective

- ❖ **Live Project**
- ❖ **Mock Interview Preparation**
- ❖ **Resume Building**
- ❖ **Portal Creation**
- ❖ **Placement Assistance**