

FRONT END SYLLABUS

1) HTML5:

- a. Introduction
- b. Basic Formatting Tags
- c. Div and Span tag
- d. HTML Lists
- e. Images
- f. Hyperlink
- g. Table
- h. Iframe
- i. Form
- j. Headers

2)CSS3:

- a. Introduction
- b. Syntax
- c. Selectors
- d. Color Background
- e. Text Fonts
- f. Style Tables
- g. Box Model
- h. Display Positioning
- i. Floats
- j. Flex

3) JavaScript:

- a. Introduction
- b. JS in HTML
- c. HTML DOM (Document Object Model)
- d. JS Console
- e. JS Debugging
- f. JS var
- g. Arrays
- h. JS Objects
- i. JS Functions
- j. JS dialog boxes
- k. HTML Attributes etc.

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4) Advance JavaScript:

- a. Variable Hoisting in JavaScript
- b. JS let & const
- c. Arrow function
- d. Find, Filter & Map function
- e. JS Object Constructors
- f. String & Template literals
- g. Event in JS
- h. Class

5) Bootstrap

a. Introduction of Responsive Bootstrap

- i. Introducing Bootstrap
- ii. Creating a Simple Page
- iii. Enhancing the Page

b. Responsive Layouts with the Bootstrap Grid

- i. Introducing of Grid
- ii. How the Bootstrap Grid Works
- iii. Layout in Bootstrap
- iv. Styling Content

c. Using Bootstrap Components

- i. Building a Navbar
- ii. Adding Buttons and Button Groups
- iii. Horizontal Nav and Dropdown Buttons
- iv. Displaying Content with Cards
- v. Building the List Group

d. Building Forms with Bootstrap

- i. Form Groups and Form Controls
- ii. Custom Form Controls for Cross-Browser Consistency
- iii. Structured Form Layouts with the Grid
- iv. Adding Validation Styles

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6) React JS: -

- a. React JS Introduction
- b. Advantages of scripting languages
- c. Features, Advantages & Limitations of React JS
- d. Setting up Environment
- e. Module Import - Export
- f. JSX in Depth
- g. Babel compiler in React JS
- h. Components in React JS
- i. Props in React JS
- j. Fragments in React JS
- k. Bootstrap in React JS
- l. Bootstrap-icon in React JS
- m. React Conditional Rendering
- n. API Call in React
- o. Hooks in React JS
- p. Context in React JS
- q. Form in React JS
- r. React Router

Mini Project on React

7) Node JS:

1) Introduction to Node JS

- Introduction
- What is Node JS?
- Advantages of Node JS
- Node.js Process Model

2) Setup Dev Environment

- Install Node.js on Windows
- Installing in mac os
- Working in REPL
- Node JS Console

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3) Node JS Modules

- Functions
- Buffer
- Module
- Module Types
- Core Modules
- Local Modules
- Module. Exports

4) Node Package Manager

- What is NPM
- Installing Packages Locally
- Adding dependency in package.json
- Installing packages globally
- Updating packages

5) Creating Web server

- Creating web server
- Handling http requests
- Sending requests

6) File System

- Fs read File
- Writing a File
- Writing a file asynchronously
- Opening a file
- Deleting a file

7) Debugging Node JS Application

- Core Node JS debugger
- Debugging with Visual Studio

8) Express.JS

- Configuring routes
- Working with express

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9) Database connectivity

- Connection string
- Configuring
- Working with select command
- Updating records
- Deleting records

8) Express.js

1. Introduction to Express.js

- a. What is Express.js and its role in web development
- b. Setting up a basic Express.js application

2. Routing

- a. Handling different HTTP methods (GET, POST, PUT, DELETE, etc.)
- b. Creating routes using Express's routing system
- c. Route parameters and query strings
- d. Route middleware for pre-processing requests

3. Middleware

- a. Understanding middleware and its role in the request-response cycle
- b. Writing custom middleware functions
- c. Built-in middleware like `express.json()`, `express.urlencoded()`, etc.

4. Static File Assets

- a. Serving static files like CSS, html, and client-side JavaScript
- b. Using `express.static()` middleware

5. Database Integration

- a. Connecting to databases (MongoDB, MySQL, etc.)
- b. Performing CRUD operations using middleware and route handlers

6. RESTful API

- a. Designing RESTful APIs using Express
- b. Creating routes for API endpoints
- c. Handling JSON data and responding with JSON

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9) MongoDB

1. Introduction to MongoDB

- a. What is MongoDB and its features?
- b. Comparison with relational databases

2. Setting Up the MongoDB

- a. install MongoDB locally
- b. Start MongoDB
- c. MongoDB Help
- d. MongoDB Statistic

3. Data Modeling

- a. Designing schemas for NoSQL databases
- b. Understanding embedded documents and references
- c. Indexing and its importance

4. Operation

- a. CRUD operations (Create, Read, Update, Delete) in MongoDB
- b. Working with documents and collections
- c. Querying data using the MongoDB Query Language (MQL)

5. Data Management

- a. Data import and export using tools like mongoimport and mongoexport
- b. Data backup and restoration strategies
- c. Handling large datasets

6. Database Connectivity

- a. Overview of MongoDB drivers for various programming languages
- b. Connecting and interacting with MongoDB using drivers
