

**Unit-I**

**Chapter 1 : Introduction to Web Technologies**

**1-1 to 1-62**

**Syllabus : HTML :** Getting started with HTML, Why HTML, Tags and Elements, Attributes, Properties, Headings list, Links, Tables, Images, HTML Form, Media (Audio, Video), Semantic HTML5 Elements.

**CSS :** Why CSS, Types of CSS, How to use CSS, Properties, Classes, Child-Class (Nested CSS), Colors, Text, Background, Border, Margin, Padding, Positioning (flex, grid, inline, block), Animation, Transition.

**BOOTSTRAP :** Why Bootstrap, CSS over Bootstrap, How to Use Bootstrap, Bootstrap Grid System, Bootstrap Responsive, Bootstrap Classes, Bootstrap Components (i.e., Button, Table, List, etc.), Bootstrap as a Cross Platform.

**W3C :** What is W3C , How W3C handles/Supports Web Technologies.

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**Unit-II**

**Chapter 2 : Web Scripting Languages 2-1 to 2-72**

**Syllabus : JavaScript :** Introduction to Scripting languages, Introduction to JavaScript (JS), JS Variables and Constants, JS Variable Scopes, JS Data Types, JS Functions, JS Array, JS Object, JS Events.

**Advanced JavaScript :** JSON - JSON Create, Key-Value Pair, JSON Access, JSON Array, JS Arrow Functions, JS Callback Functions, JS Promises, JS Async-Await Functions, JS Error Handling.

**AJAX :** Why AJAX, Call HTTP Methods Using AJAX, Data Sending, Data Receiving, AJAX Error Handling.

**JQUERY :** Why JQuery, How to Use, DOM Manipulation with JQuery, Dynamic Content Change with JQuery, UI Design Using JQuery.

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**Unit-III**

**Chapter 3 : Front End Technologies 3-1 to 3-40**

**Syllabus : Front-End Frameworks** : What is web framework? Why Web Framework? Web Framework Types.

**MVC** : What is MVC, MVC Architecture, MVC in Practical, MVC in Web Frameworks.

**TypeScript** : Introduction to TypeScript (TS), Variables and Constants, Modules in TS.

**AngularVersion 10+** : Angular CLI, Angular Architecture, Angular Project Structure, Angular Lifecycle, Angular Modules, Angular Components, Angular Data Binding, Directives and Pipes, Angular Services and Dependency Injections (DI), Angular Routers, Angular Forms.

**ReactJS** : Introduction to ReactJS, React Components, Inter Components Communication, Components Styling, Routing, Redux- Architecture, Hooks- Basic hooks, useState() hook, useEffect() hook, useContext() hook.

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**Unit-IV**

**Chapter 4 : Back End Technologies 4-1 to 4-32**

**Syllabus : Node.JS :** Introduction to Node.JS, Environment Setup, Node.JS Events, Node.JS Functions, Node.JS Built-in Modules, File System, NPM, Install External Modules, Handling Data I/O in Node.JS, Create HTTP Server, Create Socket Server, Microservices- PM2.

**ExpressJS :** Introduction to ExpressJS, Configure Routes, Template Engines, ExpressJS as Middleware, Serving Static Files, REST HTTP Method APIs, Applying Basic HTTP Authentication, Implement Session Authentication.

**MongoDB :** NoSQL and MongoDB Basics, MongoDB-Node.JS Communication, CRUD Operations using Node.JS, Mongoose ODM for Middleware, Advanced MongoDB.

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**Unit-V**

**Chapter 5 : Mobile Web Development 5-1 to 5-19**

**Syllabus : Mobile-First :** What is Mobile-First? What is Mobile Web? Understanding Mobile Devices and Desktop.

**JQuery Mobile :** Introduction to the jQuery Mobile Framework, Set-up jQuery Mobile, Pages, Icons, Transitions, Layouts Widgets, Events, Forms, Themes, Formatting Lists, Header and Footer, CSS Classes, Data Attributes, Building a Simple Mobile Webpage.

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**Unit-VI**

**Chapter 6 : Web Application Deployment 6-1 to 6-27**

**Syllabus : Cloud :** AWS Cloud, AWS Elastic Compute, AWS Elastic Load Balancer and its types, AWS VPC and Component of VPC, AWS storage, Deploy Website or Web Application on AWS, Launch an Application with AWS Elastic Beanstalk.

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