

NAME OF TEACHER :- Dr. Ashok

Class :- BSC PS SEM :- 05 Session 2025-26

AUGUST

UNIT-I

Introduction to Internet and World Wide Web (WWW); Evolution and History of World Wide Web, Web Pages and Contents, Web Clients, Web Servers, Web Browsers; Hypertext Transfer Protocol, URLs; Searching, Search Engines and Search Tools. Web Publishing; Hosting website; Internet Service Provider; Planning and designing website; Web Graphics Design, Steps for Developing website

SEPTEMBER

Creating a Website and Introduction to Mark up Languages (HTML and DHTML), HTML Document Features & fundamentals, HTML Elements, Creating Links; Headers; Text styles; Text Structuring; Text color and Background; Formatting text; Page layouts, Images; Ordered and Unordered lists; Inserting Graphics; Table Creation and Layouts; Frame Creation and Layouts; Working with Forms and Menus; Working with Radio Buttons; Check Boxes; Text

OCTOBER

Introduction to CSS (Cascading Style Sheets); Features, Core Syntax, Types, Style Sheets and HTML, Style Rule Inheritance and Inheritance, Text Properties, CSS Box Model, Normal Flow Box Layout, Positioning and other useful Style Properties; Features of CSS3.

NOVEMBER

The Nature of JavaScript: Evolution of Scripting Languages, JavaScript-Definition, Programming for Non-Programmers, Introduction to Client-Side Programming, Enhancing HTML Documents with JavaScript. Static and Dynamic web pages.

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23/08/25

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AUGUST –

Basics of Front End Development: Overview of web development (Front End vs. Back End), Understanding the MERN stack and its components, Tools and environments (text editors, browsers, version control with Git); HTML (HyperText Markup Language): Structure of an HTML document, HTML elements and attributes, Forms and input types, Semantic HTML (header, footer, article, section, nav); CSS (Cascading Style Sheets): Basics of CSS (syntax, selectors, properties), CSS Box Model, Positioning and layout (float, flexbox, grid), Responsive design (media queries, mobile-first design).

SEPTEMBER

II Basics of JavaScript: Introduction to JavaScript, Variables, data types, and operators, Control structures (if, else, switch, loops); Functions and Scope: Defining and invoking functions, Function expressions and arrow functions, Scope and closures; Objects and Arrays: Creating and manipulating objects, Array methods and iteration; Regular Expressions: Introduction to RegExp, Regular expression usage, Modifiers, RegExp patterns, RegExp methods, String methods for RegExp; DOM Manipulation and Events: Selecting and manipulating DOM elements, Event handling and delegation, Creating and appending elements dynamically 15

OCTOBER

III Introduction to React: Overview and advantages of React, Setting up a React development environment (using Create React App); JSX (JavaScript XML): Understanding JSX syntax, Embedding expressions in JS, JSX best practices; Components and Props: Functional and class components, Props and component communication, Prop types and default props.; State and Lifecycle: Understanding state in React, State management in class components, Lifecycle methods (componentDidMount, componentDidUpdate, componentWillUnmount); Event Handling and Forms: Handling events in React, Controlled vs. uncontrolled components, Form handling and validation 15

NOVEMBER

IV React Router: Introduction to React Router, Setting up and configuring routes, Navigating between routes and passing parameters; State Management with Redux: Introduction to Redux, Setting up Redux with React, Actions, reducers, and store, Connecting Redux to React components; Advanced Hooks: Using built-in hooks (useEffect, useContext, useReducer), Creating custom hooks, Managing side effects with useEffect


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I Introduction: Algorithmic notation – Programming principles – Creating programs- Analyzing programs. Arrays: One dimensional array, multidimensional array, pointer arrays. Searching: Linear search, Binary Search, Fibonacci search. Sorting techniques: Internal sorting - Insertion Sort, Selection Sort, Shell Sort, Bubble Sort, Quick Sort, Heap Sort, Merge Sort and Radix Sort. 15

SEPTEMBER

II Stacks: Definition – operations - applications of stack. Queues: Definition - operations - Priority queues – Dequeues – Applications of queue. Linked List: Singly Linked List, Doubly Linked List, Circular Linked List, linked stacks, Linked queues, Applications of Linked List – Dynamic storage management – Generalized list. 15

OCTOBER

III Trees: Binary tree, Terminology, Representation, Traversals, Applications – Binary search tree – AVL tree. B Trees: B Tree indexing, operations on a B Tree, Lower and upper bounds of a B Tree - B + Tree Indexing – Trie Tree Indexing..

NOVEMBER

Graph: Terminology, Representation, Traversals – Applications - spanning trees, shortest path and Transitive closure, Topological sort. Sets: Representation - Operations on sets – Applications. Files: queries - Sequential organization – Index techniques. External sorting.

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