

CAP553:WEB TECHNOLOGIES

L:2 T:0 P:2 Credits:3

Course Outcomes: Through this course students should be able to

CO1 :: remember the latest HTML5, CSS3 and Bootstrap concepts

CO2 :: understand the components, props, states and component life cycle methods in React JS

CO3 :: apply the single page applications with React JS

CO4 :: analyze the web pages with Grid CSS and Flexbox features

CO5 :: evaluate the reusable React components

Unit I

HTML : basic tags, images and attributes, lists, block level- inline elements, tables, forms

Unit II

CSS : intro to css, css basics, css colors, background and border, selector, text and font, box model, css position, css float, display property, media queries, flexbox and its properties, CSS grid

Unit III

Bootstrap : what is bootstrap?, including bootstrap in project, web design, grid system, header section, font and feature section, bootstrap modals, bootstrap card, carousel, css z- index, image gallery, forms

Unit IV

Basics of React : obstacles and roadblocks, react's future, keeping up with the changes, working with the files

Functional Programming with JavaScript : declaring variables in es6, arrow functions, transpiling, es6 objects and arrays, promises, classes, es6 modules, common js, what it means to be functional, imperative versus declarative, functional concepts

Unit V

Pure React : page setup, the virtual DOM, react elements, react DOM, children, constructing elements with data, react components, DOM rendering, factories

React with JSX : react elements as JSX, babel, intro to webpack

Unit VI

Props, State, and the Component Tree : property validation, refs, react state management, state within the component tree

React Router and Server : incorporating the router, router parameters, server rendering, communication with the server

List of Practicals / Experiments:

Practicals / Experiments

- Develop web pages using html5 elements
- Apply various CSS properties to develop aesthetic web pages
- Develop flexible and responsive web pages using Flexbox
- Use media queries to apply CSS styles depending on a device's media type
- Create web page layout design using CSS Grid
- Apply Bootstrap classes to decorate html elements.
- Develop attractive web pages using bootstrap card, carousel, nav bar, image gallery, form and Modal
- Create the setup for react application and render "hello word"
- Create Function and Class components in react
- Use props, states, hooks, and routing to develop a react application

Text Books:

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1. HTML & CSS: THE COMPLETE REFERENCE by THOMAS A POWELL, MC GRAW HILL

2. LEARNING REACT: MODERN PATTERNS FOR DEVELOPING REACT APPS by ALEX BANKS, EVE PORCELLO, O Reilly Publishing

References:

1. WEB ENABLED COMMERCIAL APPLICATION DEVELOPMENT USING HTML, JAVASCRIPT, DHTML AND PHP by IVAN BAYROSS, BPB PUBLICATIONS

2. LEARNING REACT NATIVE: BUILDING NATIVE MOBILE APPS WITH JAVASCRIPT by BONNIE EISENMAN, O Reilly Publishing

3. ADVANCED WEB DEVELOPMENT WITH REACT by MEHUL MOHAN, BPB PUBLICATIONS