

**FULL STACK DEVELOPMENT**

<b>Course</b>	<b>B.Tech.-IV-Sem.</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>Subject Code</b>	<b>22CDPC44</b>	<b>3</b>	<b>-</b>	<b>-</b>	<b>3</b>

**Course Outcomes (COs) & CO-PO Mapping (3-Strong; 2-Medium; 1-Weak Correlation)**

COs	Upon completion of course the students will be able to	PO2	PO3	PO6	PO12	PSO1
CO1	explain the concepts of HTML5 and version control	3	2	2	3	3
CO2	illustrate java script and jQuery concepts	3	2	2	3	3
CO3	use Node.js and MongoDB Driver for web development	3	3	3	3	3
CO4	develop app using Angular concepts	3	3	3	3	3
CO5	design app using ReactJS concepts	3	2	3	3	3

**Syllabus**

Unit	Title/Topics	Hours
<b>I</b>	<b>HTML5 &amp; Version Control</b>	<b>9</b>
<b>HTML5:</b> Video & Audio, SVG, Web Storage, Drag & Drop, Geo Location. Styling using css, Bootstrap - Setup, Templates. <b>Version Control:</b> Getting Started with Git, Working with A Local Repository, Branches and Merging, Working with Remote Repository.		
<b>II</b>	<b>Java script &amp; jQuery</b>	<b>10</b>
<b>Java script:</b> Variables, Arrays, Objects, Loops, Conditionals, Switches, Functions, Events, Form validating, Ajax. <b>jQuery:</b> Selectors & Mouse events, Form events, DOM Manipulation, Effects & Animation, Traversing & Filtering.		
<b>III</b>	<b>Node.js &amp; MongoDB</b>	<b>5+4=9</b>
<b>Part-A: Node.js:</b> Getting Started With Node, Installation Node Js, Simple Server, Project using Simple Node Server, Express Setup and Routing, Middleware Password Encryption, Login Functionality, JWT.		
<b>Part-B:</b> Install MongoDB, Data Modeling, Query and Projection, Aggregation Pipeline.		
<b>IV</b>	<b>Angular</b>	<b>10</b>
Getting Started with angular, angular app from scratch, components & properties, events & binding with ngModel, fetch data from a service, submit data to service, http module & observables, routing.		
<b>V</b>	<b>React JS</b>	<b>10</b>
Install React JS, create-react-app, React Router, React Components, State, Props, React Forms, Component Life-Cycle, React Redux, Angular vs React JS.		
<b>Textbooks</b>		
1. HTML 5 Black Book, Covers CSS 3, JavaScript, XML, XHTML, AJAX, PHP and jQuery, 2 <sup>nd</sup> Ed. Paperback - 1 January 2016. <a href="https://www.amazon.in/Black-Covers-JavaScript-XHTML-jQuery/dp/935119907X">https://www.amazon.in/Black-Covers-JavaScript-XHTML-jQuery/dp/935119907X</a> 2. The Full Stack Developer: Your Essential Guide to the Everyday Skills Expected of a Modern Full Stack Web Developer Paperback – Import, 20 November 2018. <a href="https://www.amazon.in/Full-Stack-Developer-Essential-Everyday/dp/1484241517">https://www.amazon.in/Full-Stack-Developer-Essential-Everyday/dp/1484241517</a> 3. Learning Node.js Development: Learn the fundamentals of Node.js, and deploy and test Node.js applications on the web Paperback – Import, 31 January 2018. <a href="https://www.amazon.in/Learning-Node-js-Development-fundamentals-applications/dp/1788395549">https://www.amazon.in/Learning-Node-js-Development-fundamentals-applications/dp/1788395549</a> 4. Angular 14 from Scratch. <a href="https://leanpub.com/book-angular">https://leanpub.com/book-angular</a> 5. Full-Stack React Projects: Learn MERN stack development by building modern web apps using MongoDB, Express, React, and Node.js, 2 <sup>nd</sup> Edition Paperback – Import, 17 April 2020. <a href="https://www.amazon.in/Full-Stack-React-Projects-development-building/dp/1839215410">https://www.amazon.in/Full-Stack-React-Projects-development-building/dp/1839215410</a>		
<b>Web References</b>		
1. Git: <a href="https://git-scm.com/">https://git-scm.com/</a> Github: <a href="https://github.com/">https://github.com/</a> 2. HTML: <a href="https://developer.mozilla.org/en-US/docs/Web/HTML">https://developer.mozilla.org/en-US/docs/Web/HTML</a> 3. Javascript: <a href="https://developer.mozilla.org/en-US/docs/Web/JavaScript">https://developer.mozilla.org/en-US/docs/Web/JavaScript</a> 4. Node: <a href="https://nodejs.org/en/">https://nodejs.org/en/</a> MongoDB: <a href="https://www.mongodb.com/try/download/community">https://www.mongodb.com/try/download/community</a> 5. Angular: <a href="https://angular.io/">https://angular.io/</a> React JS: <a href="https://reactjs.org/">https://reactjs.org/</a>		