



GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING AND TECHNOLOGY FULL STACK WEB DEVELOPMENT

Course code: GR24A2078
II Year II Semester

L/T/P/C: 3/0/0/3

Course Outcomes:

1. Build the knowledge of web development basics, HTML, CSS and building interactive web pages using JavaScript.
2. Develop a complete web application from the scratch that includes Front-end, Back-end and Data-exchange technologies.
3. Design server side applications using servlets and JSP for interactive web applications.
4. Demonstrate simple NodeJs Applications and connectivity to MongoDB.
5. Apply concepts of Express over full stack application development using MERN Stack.

UNIT I

HTML Common tags- List, Tables, images, forms, Frames; Introduction to JavaScript- Objects and Functions in javascript, Manipulating HTML DOM; Cascading Style sheets; XML: Introduction to XML, Document Type Definition, XML Schemas, XHTML Parsing XML Data – DOM and SAX Parsers.

UNIT II

Bootstrap Programming - Setup, Templates & Navbar, Typography, Forms & Tables, CSS Components, Grid System, Modal, Dropdown, Tabs & Tooltip, Collapse, Accordion and Carousel.

jQuery Programming: Selectors & Events, Effects & Animation, DOM Traversing & Filtering
Angular JS: Introduction, Expressions, Modules, directives, AngularJS HTML DOM, Events, Forms.

Unit-III

Introduction to Servlets: Life cycle of a Servlet, deploying a servlet, The Servlet API, Handling Http Request & Responses, Using Cookies and Sessions, connecting to a database using JDBC.

Introduction to JSP: The Anatomy of a JSP Page, JSP Processing, Declarations, Directives, Expressions, implicit objects, Using Beans in JSP Pages.

Unit-IV

Introduction to Node.js- NPM - Events, Timers, and Callbacks in Node.js – file upload – email – Express framework – request –response –routing - templates- view engines.

Introduction to MongoDB- creating DB, collection – CRUD operations - Accessing MongoDB from Node.js. – Accessing online MongoDB from Node JS.

Unit-V

Express: Getting Started with Express, Configuring Routes, Using Requests Objects, Using Response Objects.

React: Need of React, Simple React Structure, The Virtual DOM, React Components, Introducing React Components, Creating Components in React, Data and Data Flow in React, Rendering and Life Cycle Methods in React, Working with forms in React, integrating third party libraries, Routing in React.

Teaching Methodologies:

- Power Point Presentations
- Tutorial Sheets
- Assignments

TEXT BOOKS

1. Beginning JavaScript with DOM scripting and AJAX: From Novice to Professional by Christian Heilmann
2. Web Programming, building internet applications, Chris Bates 2nd edition, WILEY Dreamtech
3. Jakarta Struts Cookbook, Bill Siggelkow, SPDO'Reilly.

REFERENCE BOOKS

1. Brad Dayley, Brendan Dayley, Caleb Dayley, 'Node.js, MongoDB and Angular Web Development', Addison-Wesley, Second Edition, 2018.
2. Vasan Subramanian, 'Pro MERN Stack, Full Stack Web App Development with Mongo,Express, React, and Node', Second Edition, Apress, 2019.
3. Chris Northwood, 'The Full Stack Developer: Your Essential Guide to the Everyday Skills Expected of a Modern Full Stack Web Developer', Apress; 1st edition, 2018.
4. Kirupa Chinnathambi, 'Learning React: A Hands-On Guide to Building Web Applications
5. Using React and Redux', Addison-Wesley Professional, 2nd edition, 2018.