

FULL STACK DEVELOPMENT

III Year I Semester: IT

| Course Code | Category | Hours / Week | | | Credits | Maximum Marks | | |
|-------------|----------|--------------|---|---|---------|---------------|-----|-------|
| A6IT10 | PCC | L | T | P | C | CIE | SEE | Total |
| | | 3 | 0 | 0 | 3 | 40 | 60 | 100 |

COURSE OBJECTIVES:

1. To become knowledgeable about the most recent web development technologies
2. Idea for creating two tier and three tier architectural web applications
3. Design and Analyze real time web applications.
4. Constructing suitable client and server side applications.
5. To learn core concept of both front end and back end programming.

COURSE OUTCOMES:

The students can able to learn:

1. Develop a fully functioning website and deploy on a web server.
2. Gain Knowledge about the front end and back end tools
3. Find and use code packages based on their documentation to produce working results in a project
4. Create web pages that function using external data
5. Implementation of web application employing efficient database access

UNIT I WEB DEVELOPMENT BASICS Classes: 13

HTML-Introduction, Presentation tags-Bold, Italic, Headings, Paragraph, Line Break, form, iframe, image tag

CSS3- Syntax, Terminology, Properties-color and Background, Text, Font, Layouts – Flexbox Layout, Grid Layout ,Positioning

Version control - Git&GitHub, Basic Git Commands-Add, Commit, log, Push, Pull, Delete, Forking

UNIT II FRONT END DEVELOPMENT Classes: 15

Java script basics Introduction-Variables, Data Types, Operators, Control Structures, Java script OOPS concepts, JS Validation, JS Functions-Function Declaration, Function Expression, Arrow Functions

JQuery Introduction- Basic JQuery Syntax, J Query events-Click Event, Mouse Events, Form Events, Keyboard Events

UNIT III REACT JS Classes: 12

REACT JS: Introduction to React -Key Features, Basic example, React Router and Single Page Applications-Installation, Basic Setup, React Components-Functional Components, Class Components, React Forms, React JS Flow Architecture, Introduction to Redux, Client-Server Communication -Fetch and Axios

UNIT IV JAVA WEB DEVELOPMENT Classes: 12

Model View Controller(MVC) Overview- Model, View, Controller

Spring basics-Inversion of Control (IoC),Dependency Injection (DI) ,Aspect-Oriented Programming (AOP),

MVC Architecture using Spring-Setting up Spring MVC, Controller, View, Application Configuration

RESTful API using Spring Framework- Setting up Spring REST, Controller, model, Building an application

using Maven -Setting up Maven, Directory Structure,Running the Application

UNIT V DATABASES & DEPLOYMENT

Classes: 13

SQL Basic commands-CREATE, ALTER, DROP, SELECT, INSERT, UPDATE, DELETE, JOIN

Data persistence using Spring, JDBC: Spring JDBC Setup, Database Configuration, Define the Data

Source Bean, Using Jdbc Template

Deploying application in Cloud.-Prepare the Application, Choose a cloud Provider, Create a Cloud Account and Set Up Services, Deploy the Application

TEXT BOOKS:

1. MASTERING HTML, CSS & Java Script Web Publishing by Laura Lemay, Rafe Colburn , Jennifer Kyrnin by BPB Publications.
2. Version Control with Git : Powerful Tools and Techniques for Collaborative Software Development By Jon Loeliger, Matthew McCullough
3. Professional JavaScript for Web Developers by Matt Frisbie · 2019
4. ReactJS by Example - Building Modern Web Applications with ReactVipul A M, Prathamesh Sonpatki · 2016
5. Spring MVC: Designing Real-World Web Applications by Shameer Kunjumohamed, Hamidreza Sattari, Alex Bretet · 2016

REFERENCES:

1. Full-Stack JavaScript Development by Eric Bush, 2016.
2. Mastering Full Stack React Web Development Paperback – April 28, 2017 by Tomasz Dyl, Kamil Przeorski, Maciej Czarnecki