III Year-II Semester
(20CS6426) Web Technologies

Int. Marks	Ext. Marks	Total Marks	L	T	P	C
30	70	100	3	-	-	3

Pre- Requisites: None

Course Objectives:
This course is designed to

- Understand the concepts of Hyper Text Markup Language and Cascading Style Sheets
- Learn JavaScript for creating dynamic web pages
- Impart servlet technology for writing business logic and familiarize various concepts of application development using JSP
- Learn the creation of pure dynamic Web application using JDBC
- Understand the core concepts of JUnit and its framework, AJAX concepts to build interactive web applications

UNIT-I:
HTML, CSS Basic Syntax, Standard HTML Document Structure, Basic Text Markup, Images, Hypertext Links, Lists, Tables, Forms, HTML5 CSS: Levels of Style Sheets, Style Specification Formats, Selector Forms, The Box Model, Conflict Resolution.

UNIT-II:
Java script The Basic of Java script: Objects, Primitives Operations and Expressions, Screen Output and Keyboard Input, Control Statements, Object Creation and Modification, Arrays, Functions, Constructors, Pattern Matching using Regular Expressions DHTML: Positioning Moving and Changing Elements

UNIT-III:
SERVLETS: Introduction to Servlets (Life cycle of servlets, Java Servlets Development Kit, creating, Compiling and running servlet). The servlet API: javax. servlet package. Reading and Initializing Servlet Parameters. Http Request & Response Handling, Session Tracking

JAVA SERVER PAGES: Configuring Tomcat JSP/Servlet server. Advantage of JSP technology. JSP Architecture, JSP Access Model. JSP Syntax Basic (Directions, Declarations, Expression, Scriptlets, Comments) JSP Implicit Object (Out, HttpServlet Request, Http Servlet Response, Exception Handling

UNIT-IV:
The Concept of JDBC; JDBC Driver Types; JDBC Packages; A Brief Overview of the JDBC process; Database Connection; Associating the JDBC/ODBC Bridge with the Database; Statement Objects; ResultSet; Transaction Processing; Metadata, Data types; Exceptions.

UNIT-V:
JUnit Introduction, Unit Testing, Test Framework, TestCase, Assert, TestRunner, TestSuite, Writing a Test, Execution Procedure, Executing Tests, Suite Test, Ignore Test, Time Test, Exceptions Test, Parameterized Test, ANT
AJAX : AJAX - What is AJAX?, AJAX – Technologies, Understanding, Synchronous vs Asynchronous, AJAX - Browser Support, AJAX –Action, AJAX – XMLHttp Request, How AJAX works?, Ajax

First Program With Explanation, Ajax Request, open() and send()methods, Ajax Server Response, response Text and Response XML, Java AJAX, AJAX – Examples, Comment Form , Search Example, AJAX - Database Operations, AJAX – Issues

Course Outcomes:

S.No	Course Outcomes	BTL
1	Implement web based applications using features of HTML and CSS	
2	Build dynamic web pages using JavaScript	
3	Write a server side Java application using Servlet and apply JSP concepts for server side Java application	
4	Implement the web based applications using effective data base access with rich client interaction	
5	Use and execute test frameworks, test cases for Java programs and build interactive web pages using AJAX	

Text Books:

1. Web Technologies, Black Book, Kogent Learning Solutions Inc, Dreamtech Press.
2. JDBC, Servlets, and JSP, New Edition, Santhosh Kumar K , Kogent Learning Solutions Inc, Dreamtech Press

Reference Books:

1. Web Technologies , Uttam K. Roy, Volume 2 , Oxford University
2. Core Servlets and Java Server Pages Volume 1 CORE TECHNOLOGIES , Marty Hall and Larry Brown Pearson
3. Java Server Pages, Pekowsky, Pearson.
4. Java Script, D.Flanagan,O‟Reilly,SPD.