Course Code	Course Title	L	T	P	C
BCSE404L	Internet and Web Programming	3	0	0	3
Pre-requisite	NIL	Syllabus version			
		1.0			

Course Objectives

1. To provide a practical approach to learning web technologies and programming.
2. To enable full-stack web development by learning every aspect of building a database driven web application.
3. To demonstrate how the client-server model of Internet programming works

Course Outcomes

After successfully completing the course the student should be able to
1. Identify the different protocols used in the web and comprehend the architecture of the web.
2. Apply frontend technologies such as markup, styling and interactivity to the web pages.
3. Build full database-driven web applications using server-side programming.
4. Create asynchronous processes thereby creating effective web pages.
5. Construct complete websites using the latest web technologies and MVC pattern

Module:1	Introduction To Internet	3 hours

Internet Overview- Networks – WWW –Web Protocols – Web Organization and Addressing – Internet Service Providers, DNS Servers, Connection Types, Internet Addresses - Web Browsers and Web Servers -Security and Vulnerability-Web System Architecture – URL - Domain Name – Web Content Authoring - Webserver Administration – Search Engines

Module:2	Web Designing	8 hours

HTML5 – Text tags; Graphics, Video and Sound Tags; Link and Anchor Tags; Table Tags; Form elements, HTML 5 Input types, semantic tags, CSS3 - Selectors, Box Model, Backgrounds and Borders, Text Effects, Animations, Multiple Column Layouts

Module:3	Client Side Scripting	8 hours

JavaScript -Variables and Data Types - Statements – Operators- Literals- Functions- Objects- Arrays- Built-in Objects - Exceptions, Event handling, Validation - DOM - Canvas- JQuery

Module:4	Server Side Scripting	6 hours

Structure of PHP – Expressions and Control Flow – Functions and Objects – Arrays – Form Handling – File Handling – Email - Validation and Error Handling – Cookies – Session

Module:5	Database Connectivity	6 hours

MySQL – Introduction - database design concepts - the Structured Query, Language (SQL) - communicating with a MySQL backend via the PHP - MySQL API - More MySQL database access – PHP Data Objects - JSON

Module:6	Developing Interactive Web Applications	6 hours

XML Basics – Namespaces – Transforming XML documents - XSL, XSLT, XML Schema- DTD,XSD - AJAX –AJAX calls - XML http – request – response – AJAX

with PHP - Data Formats - AJAX with Database – Processing Server Response - AJAX Security		
Module:7	Application Development	6 hours
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 Mongo DB- creating DB, collection – CRUD operations - Accessing MongoDB from Node.js. – Accessing online Mongo DB from Node JS.		
Module:8	Recent Trends	2 hours
Guest lectures from Industry and, Research and Development Organizations		
	Total Lecture hours:	45 hours
Text Book(s)		
1.	Paul J. Deitel, Harvey M. Deitel, Abbey Deitel, "Internet & World Wide Web How to Program", Deitel series, 5th edition, 2012	
2.	Simon Holmes, GETTING MEAN: with MONGO,EXPRESS, ANGLUAR JS, & NODE JS, Second edition, Manning Publications, 2015	
Reference Books		
1.	DT Editorial Services, HTML 5 Black Book, 2nd edition, Dream Tech press, 2018.	
Mode of Evaluation: CAT, Assignments, Quiz and FAT		
Recommended by Board of Studies	12-05-2023	

Approved by Academic Council	No. 70	Date	24-06-2023