

Course Code	Course Title	L	T	P	C
BCSE404L	Internet and Web Programming	3	0	0	3
Pre-requisite	NIL	Syllabus version			
		1.0			
<b>Course Objectives</b>					
<ol style="list-style-type: none"> <li>1. To provide a practical approach to learning web technologies and programming.</li> <li>2. To enable full-stack web development by learning every aspect of building a database driven web application.</li> <li>3. To demonstrate how the client-server model of Internet programming works</li> </ol>					
<b>Course Outcomes</b>					
<p>After successfully completing the course the student should be able to</p> <ol style="list-style-type: none"> <li>1. Identify the different protocols used in the web and comprehend the architecture of the web.</li> <li>2. Apply frontend technologies such as markup, styling and interactivity to the web pages.</li> <li>3. Build full database-driven web applications using server-side programming.</li> <li>4. Create asynchronous processes thereby creating effective web pages.</li> <li>5. Construct complete websites using the latest web technologies and MVC pattern</li> </ol>					
<b>Module:1</b>	<b>Introduction To Internet</b>	<b>3 hours</b>			
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					
<b>Module:2</b>	<b>Web Designing</b>	<b>8 hours</b>			
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					
<b>Module:3</b>	<b>Client Side Scripting</b>	<b>8 hours</b>			
JavaScript -Variables and Data Types - Statements – Operators- Literals-Functions- Objects- Arrays- Built-in Objects - Exceptions, Event handling, Validation - DOM - Canvas- JQuery					
<b>Module:4</b>	<b>Server Side Scripting</b>	<b>6 hours</b>			
Structure of PHP – Expressions and Control Flow – Functions and Objects – Arrays – Form Handling – File Handling – Email - Validation and Error Handling – Cookies – Session					
<b>Module:5</b>	<b>Database Connectivity</b>	<b>6 hours</b>			
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					
<b>Module:6</b>	<b>Developing Interactive Web Applications</b>	<b>6 hours</b>			
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			
<b>Module:7</b>	<b>Application Development</b>	<b>6 hours</b>	
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.			
<b>Module:8</b>	<b>Recent Trends</b>	<b>2 hours</b>	
Guest lectures from Industry and, Research and Development Organizations			
		<b>Total Lecture hours:</b>	<b>45 hours</b>
<b>Text Book(s)</b>			
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		
<b>Reference Books</b>			
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