

Course code	Course Name	L-T-P - Credits	Year of Introduction
CS368	Web Technologies	3-0-0-3	2016
<b>Prerequisite: Nil</b>			
<b>Course Objectives</b> <ul style="list-style-type: none"> <li>To impart the design, development and implementation of Dynamic Web Pages.</li> <li>To develop programs for Web using Scripting Languages.</li> <li>To give an introduction to Data Interchange formats in Web.</li> </ul>			
<b>Syllabus</b> Basics of Internet and World Wide Web, HTML and XHTML, Cascading Style Sheets, Frameworks, Basics of JavaScript, JQuery, Introduction to XML and JSON, Overview of PHP			
<b>Expected Outcome</b> The student will be able to <ol style="list-style-type: none"> <li>Understand different components in web technology and to know about CGI and CMS.</li> <li>Develop interactive Web pages using HTML/XHTML.</li> <li>Present a professional document using Cascaded Style Sheets.</li> <li>Construct websites for user interactions using JavaScript and JQuery.</li> <li>Know the different information interchange formats like XML and JSON.</li> <li>Develop Web applications using PHP.</li> </ol>			
<b>Text Books</b> <ol style="list-style-type: none"> <li>P. J. Deitel, H.M. Deitel, Internet &amp; World Wide Web How To Program, 4/e, Pearson International Edition 2010.</li> <li>Robert W Sebesta, Programming the World Wide Web, 7/e, Pearson Education Inc., 2014.</li> </ol>			
<b>References</b> <ol style="list-style-type: none"> <li>Bear Bibeault and Yehuda Katz, jQuery in Action, Second Edition, Manning Publications.[Chapter 1] Black Book, Kogent Learning Solutions Inc. 2009.</li> <li>Bob Boiko, Content Management Bible, 2<sup>nd</sup> Edition, Wiley Publishers. [Chapter 1, 2]</li> <li>Chris Bates, Web Programming Building Internet Applications, 3/e, Wiley India Edition 2009.</li> <li>Dream Tech, Web Technologies: HTML, JS, PHP, Java, JSP, ASP.NET, XML, AJAX,</li> <li>Jeffrey C Jackson, Web Technologies A Computer Science Perspective, Pearson Education Inc. 2009.</li> <li>Lindsay Bassett, Introduction to JavaScript Object Notation: A To-the-Point Guide to JSON 1st Edition, O'Reilly.[Chapter 1,2,3,4]</li> <li>Matthew MacDonald, WordPress: The Missing Manual, 2nd Edition, O'Reilly Media. [Chapter 1]</li> </ol>			
<b>Web Resources</b> <ol style="list-style-type: none"> <li><a href="http://www.w3.org/CGI/">www.w3.org/CGI/</a></li> <li><a href="http://old.tree.ro/en/strategy-white-papers/content-management-systems.pdf">old.tree.ro/en/strategy-white-papers/content-management-systems.pdf</a></li> <li><a href="http://d.apache.org/download.cgi">httpd.apache.org/download.cgi</a></li> <li><a href="https://alistapart.com/article/frameworks">https://alistapart.com/article/frameworks</a></li> <li><a href="http://getbootstrap.com/css/">http://getbootstrap.com/css/</a></li> <li><a href="https://www.w3.org/TR/WD-DOM/introduction.html">https://www.w3.org/TR/WD-DOM/introduction.html</a></li> </ol>			
<b>Course Plan</b>			
Module	Contents	Hours	End Sem. Exam Marks

I	<b>Introduction to the Internet:</b> The World Wide Web, Web Browsers, Web Servers, Uniform Resource Locators, Multipurpose Internet Mail Extensions, The Hypertext Transfer Protocol. Common Gateway Interface(CGI), Content Management System – Basics <i>Case Study:</i> Apache Server, WordPress.	06	15%
II	<b>Introduction to HTML/XHTML :</b> Origins and Evolution of HTML and XHTML, Basic Syntax of HTML, Standard HTML Document Structure, Basic Text Markup, Images, Hypertext Links, Lists, Tables, Forms, HTML5, Syntactic Differences between HTML and XHTML.	07	15%
FIRST INTERNAL EXAM			
III	<b>Introduction to Styles sheets and Frameworks</b> <b>Cascading Style Sheets:</b> Levels of Style Sheets - Style Specification Formats, Selector Forms, Property-Value Forms, Font Properties, List Properties, Alignment of Text, Color, The Box Model, Background Images, The span and div Tags. <b>Frameworks:</b> Overview and Basics of Responsive CSS Frameworks - Bootstrap.	06	15%
IV	<b>Introduction to JavaScript and jQuery</b> <b>The Basics of JavaScript:</b> Overview of JavaScript, Object Orientation and JavaScript, General Syntactic Characteristics-Primitives, Operations, and Expressions, Screen Output and Keyboard Input, Control Statements, Object Creation and Modification, Arrays, Functions. Callback Functions, JavaScript HTML DOM. <b>Introduction to jQuery:</b> Overview and Basics.	07	15%
SECOND INTERNAL EXAMINATION			
V	<b>Introduction to Data Interchange Formats</b> <b>XML:</b> The Syntax of XML, XML Document Structure, Namespaces, XML Schemas, Displaying Raw XML Documents, Displaying XML Documents with CSS, XSLT Style Sheets, XML Applications. <b>JSON(Basics Only):</b> Overview, Syntax, Datatypes, Objects, Schema, Comparison with XML.	08	20%
VI	<b>Introduction to PHP:</b> Origins and Uses of PHP, Overview of PHP - General Syntactic Characteristics - Primitives, Operations, and Expressions - Control Statements, Arrays, Functions, Pattern Matching, Form Handling, Cookies, Session Tracking.	08	20%
END SEMESTER EXAM			

### Assignment:

It is highly recommended to give assignment based on:

1. JavaScript Frameworks (like AngularJS or/and NodeJS)
2. Any PHP web app based on frameworks (like Laravel, CodeIgniter, CakePHP, Zend etc.)

### Question Paper Pattern

1. There will be *five* parts in the question paper – A, B, C, D, E
2. Part A
  - a. Total marks : 12
  - b. Four questions each having 3 marks, uniformly covering modules I and II; All four questions have to be answered.
3. Part B
  - a. Total marks : 18
  - b. Three questions each having 9 marks, uniformly covering modules I and II; Two questions have to be answered. Each question can have a maximum of three subparts.
4. Part C
  - a. Total marks : 12
  - b. Four questions each having 3 marks, uniformly covering modules III and IV; All four questions have to be answered.
5. Part D
  - a. Total marks : 18
  - b. Three questions each having 9 marks, uniformly covering modules III and IV; Two questions have to be answered. Each question can have a maximum of three subparts
6. Part E
  - a. Total Marks: 40
  - b. Six questions each carrying 10 marks, uniformly covering modules V and VI; four questions have to be answered.
  - c. A question can have a maximum of three sub-parts.