



# GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Bachelor of Computer Applications

Level: Under Graduate

Course / Subject Code : BC01001031

Course / Subject Name : Fundamentals of Web Technology

w. e. f. Academic Year:	June-2024
Semester:	1
Category of the Course:	Minor Elective Subject (Any One)

<b>Prerequisite:</b>	Basic computer knowledge
<b>Rationale:</b>	<ul style="list-style-type: none"><li>The aim of the course is to provide knowledge of web as a tool in presenting information.</li><li>Understand basic web languages and its components.</li><li>Students can develop a dynamic webpage by the use of HTML, JavaScript and DHTML.</li></ul>

## Course Outcome:

After Completion of the Course, Student will able to:

No.	Course Outcomes	RBT Level*
1	Describe basics of web and concept of web server in web technology.	RM, UN
2	Explain and develop web pages using HTML tags and validators.	RM, UN, AP
3	Describe and apply styling using CSS to HTML web pages.	RM, UN, AP
4	Implement client side scripting using Javascript.	RM, UN, AP
5	Explain JSON data format and parsing of JSON string.	RM, UN, AP

## Teaching and Examination Scheme:

Teaching Scheme (in Hours)			Total Credits L+T+ (PR/2)	Assessment Pattern and Marks				Total Marks
L	T	PR	C	Theory		Tutorial / Practical		
				ESE (E)	PA / CA (M)	PA/CA (I)	ESE (V)	
3	0	2	4	70	30	20	30	150

## Course Content:

Unit No.	Content	No. of Hours	% of Weightage
1.	<b>Introduction to Web Technology</b>  <b>Web Basics:</b> Internet, World Wide Web, HTTP, HTTPs, FTP, Web Client, Browsers Functions, URL's	4	15



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	<b>Web Server:</b> Features, History, Logging, Access Control		
2.	<b>HTML, XHTML &amp; HTML5</b>  <b>Introduction:</b> HTML, Tags and Attributes, HTML File Structure, Meta, Title, Body  <b>Common HTML Tags:</b> Headings, Anchor, Links, Lists, Table, Frames, Forms  <b>XHTML:</b> HTML Validator, Block and Inline Elements <b>Introduction to HTML5</b>	10	25
3.	<b>Page Designing with CSS</b>  CSS Declarations, Using CSS, Sample CSS File, Selectors, Box Model Concept, Padding, Float and Clear, Z-Index, Websites Benefits of CSS	8	20
4.	<b>Client-side Scripting</b>  Introduction to JavaScript, Basic Syntax, Variables, Identifiers, Data Types and Values, Scope, Literals, Reserved Words, Operators and Statements, Functions, Objects (Math, String, Date) Regular Expressions, DOM Event Handling	12	25
5.	<b>JSON</b>  Overview, Syntax, Data Types, Objects, Schema, Serializing into JSON, Parsing JSON	8	15
	<b>Total</b>	<b>42</b>	<b>100</b>

## Suggested Specification Table with Marks (Theory):

Distribution of Theory Marks (in %)					
R Level	U Level	A Level	N Level	E Level	C Level
10	20	70	-	-	-

Where R: Remember; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create (as per Revised Bloom's Taxonomy)

## Text Books:

1. Jeffrey C. Jackson (Duquesne University), WEB TECHNOLOGIES A Computer Science Perspective -Pearson Education.
2. M. Srinivasan, Web Technology: Theory and Practice, Pearson India



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3. Jeremy McPeak, Paul Wilton, Beginning JavaScript Wrox Publication

## Reference Books:

1. Murach's HTML5 & CSS3", Zak Ruvalcaba & Anne Boehm
2. "JavaScript: The Definitive Guide", 6th Edition, David Flanagan, O'Reilly Media
3. "Learning Web Design: A Beginner's Guide to HTML, CSS, JavaScript, & Web Graphics", Jennifer Niederst Robbins, O'Reilly
4. "HTML5 Programming with JavaScript", John Paul Mueller, Wiley
5. "HTML5 & CSS3 for the Real World", Estelle Weyl, Louis Lazaris, Alexis Goldstein, Sitepoint

## Suggested Course Practical List:

- 1 Write codes to create a web page using the following tags:
  - a) Text
  - b) Marquee
  - c) Character formatting tags such as B , I , U
- 2 Write codes to create a web page using font Ex-2 Color, font face, font size, and background color.
- 3 Write codes to create a web page using Paragraph tags such as P tag and BR tag.
- 4 Write codes to create a web page using Nesting of lists.
- 5 Write codes to create a web page using Table tags
  - a) Create a table of 3 rows and Columns
  - b) Having border, border size, border-color
  - c) Insert an image in a particular cell.
- 6 Write codes to create a web page using the Form tag. Example: - Admission Form.
- 7 Create a JavaScript code to display any message.
- 8 Create a JavaScript code using Control Statements.
- 9 Create a JavaScript code using an Arithmetic Operator, Assignment Operator, Comparison Operator, Logical Operator, and String Operator.
- 10 Create a JavaScript code to display  $5 * 1 = 5$   $5 * 2 = 10$  .  $5 * 10 = 50$  using 'for loop'.
- 11 Create a JavaScript code using the User Defined Function, which will calculate the area of a circle.
- 12 Write a JavaScript code to change the Web Page's background color.
- 13 Write a JavaScript code to display the Factorial of the given number.

## CO- PO Mapping:

Semester 1	Course Name: Fundamentals of Web Technology										
	POs										
Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	P10	P11
CO1	3	-	-	-	-	-	-	-	-	-	-
CO2	3	1	3	-	-	-	-	-	-	-	-



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CO3	3	3	3	-	3	-	-	-	-	-	-
CO4	3	3	3	-	3	-	-	-	-	-	-
CO5	3	3	1	-	3	-	-	-	-	-	-

Legend: '3' for high, '2' for medium, '1' for low and '-' for no correlation of each CO with PO.

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