GUJARAT TECHNOLOGICAL UNIVERSITY
MASTERS IN COMPUTER APPLICATION
Year – I (Semester – I) (W.E.F. JULY 2017)

Subject Name: Fundamental of Web (FoW)
Subject Code: 3610002

1. Objectives:
1. Students will learn about the opportunities, challenges and techniques for developing websites built with the new resources provided by HTML5.
2. Students will learn about the evolving principles and standards for constructing accessible websites; will understand different classes of disabilities and the available techniques for rendering websites useful to those with disabilities.

2. Prerequisites: Working knowledge of Internet

3. Course Contents:

Unit	Course Content	No. of Sessions
1	**Unit 1: Introduction to Web and HTML 5** **History of internet and Web** **Key Terminology:** Internet Protocols, The Client-server Model, Domain Name System, Uniform Resource Locator, Hyper Text Transfer protocol, Web Servers **Introduction to HTML5;** New structural elements of HTML5 (Building an HTML5 Starter document, Using header Element to create a site Header, Using the hgroup element to group headings, Creating navigation with nav element, Using the new article element, Grouping content with section element, Creating a side bar with the aside element, Using the footer element, Using the HTML5 outliner to ensure the correct structure, **Grouping text level and redefined Semantics:** making up figures and Captions with the figure and figcaption elements, Marking up the date and time with the time element, making the Native Toggle Widget with the details element, using the address element for contact information, Highlighting text with mark element, using s element to show inaccurate or irrelevant element., changes to existing elements, wrapping links around elements, Adding semantic information with Microdata	10
2	**Unit 2: Introduction to CSS and Web Forms** Creating a Responsive Design with CSS3 media query, Using custom fonts with @font-face, Making buttons with css Gradients and multiple backgrounds, Enhancing a site with transformations and Transitions, creating animations with CSS **HTML5 Web Forms:** HTML4 input types, Creating a form to collect contact information, creating a search form with input type=search, creating calendar and time controls, Creating a number picker, Creating a slider (without javascript), Creating a color picker, Displaying results with output	10

	element, Using Form Placeholder Text, creating an autocomplete feature with list and datalist, Tracking the completion of a task with the progress element, measuring with meter element, Jumping ro a form element when the page loads, Allowing multiple entries, Basic validations with required attribute, writing your own validation rules, limiting user input, customizing and styling the form, error messages,	
3	**Unit 3: Drawing with Canvas** Canvas overview, Laying a Grid on canvas, Canvas tools, Drawing polygons with a Path, drawing Arcs and Circles, Canvas transformations,	6
4	**Unit 4: Introduction to JavaScript** Overview, JavaScript design principles, Embedding JavaScript into a web page, JavaScript Syntax, JavaScript Objects, DOM, JavaScript Events, Form validations,	6
5	**Unit 5: Web Media** **Embedding Video with HTML5:** including video with video element, enabling video for all browsers, creating a video with subtitles and captions, media API, Making your own custom controls **Embedding Audio with HTML5:** including audio with audio element, element, enabling audio for all browsers, media API, creating a beat mixer, adding streaming video	8

4. Text Book(s):

1. Randy Connolly, Ricardo Hoar, Fundamentals of Web Development, ISBN-978-93-325-7527-1,Pearson
2. HTML5 Developer's cookbook, Chuck Hudson, Tom Leadbetter, ISBN-978-81-317-8690-1, Pearson

5. Other Reference Books:
1. Steven Holzner ,HTML Black Book , Dreamtech Press
2. Jacob Seidelin, HTML5 Games, creating Fun with HTML5,CSS3 and WebGL, Wiley
3. Faithe Wempen, "Step by Step HTML 5", South Asian Edition, Microsoft Press and PHI Learning
3. Wendy Willard, "HTML: A Beginner's Guide 5/E", 5th Edition, McGraw Hill
4. HTML Complete Reference by Thomas A. Powell, Publisher Tata McGraw Hill
5. Teach yourself Java Script in 24 by Michael Moncur Publisher: Pearson Education

6. Unit wise coverage from Text book(s):

Unit 1	Book#	Topics
I	1	Chapter 1
	2	Chapter 1,2
II	2	Chapter 4,5
III	2	Chapter 6
IV	1	Chapter 6
V	2	Chapter 7,8

Suggested Tutorial
1) **Location Awareness (Book 2 Chapter 10): Geolocations Overview:** determining and mapping your location with getcurrentposition,, Determining distance with Position, Options, Following a moving location with watchPosition,

2) **Front end framework :** Overview of any front end framework for project like BootStrap

Case study:
1. Using all the new elements to Build a news Page
2. Using all the new elements to Build a search results Page
3. Marking up an article page with comments
4. Create a web form using all HTML5 input types
5. Using HTML5 and Bootstrap prepare your website