

**BCA 1<sup>st</sup> Semester**  
**Teaching Schedule**

030010117: Introduction to Web Design

**Objective:** To explore concepts of web designing and develop user interface using markup language, applying styles and usage of scripting language.

**Course Outcomes:** Upon completion of the course, students shall be able to

C01: Summarize the necessity of user interface and applying designing principles.

C02: Construct and enhance user interface by using markup language features.

C03: Select and apply styling features to user interface.

C04: Analyse and apply effects using scripting language.

C05: Analyse and implement events using scripting library.

Unit	Sub Unit	No. of Lectures	Topics	Reference Chapter/Additional Reading	Teaching Methodology	Evaluation Parameter
<b>Unit-1: Basics of User Interface</b>						
1	1.1	1	User Interface: Importance and Benefits	UID#1 Page No. 3-5	Topic Slides	Quiz, Unit Test, Internal
	1.2	2	Designing Principles	UID#2 Page No. 80-81	Topic Slides	
	1.3	1	Design Commandments	UID#2 Page No. 82-86	Topic Slides	
	1.4	1	Human Interaction with Computers	UID#2 Page No. 87-88	Topic Slides	
	1.5	1	User Characteristics: Knowledge & Experience, Psychological and Physical	UID#2 Page No. 88-90	Chalk & talk, Topic Slides	
	1.6	1	Design Considerations: Human and Technical	UID#2 Page No. 98-106	Chalk & talk, Topic Slides	
<b>Unit-2: The Web and Markup Language</b>						
2	2.1	1	Basic Terminologies: Web, Web Browser, Web Server, Web Space, Intranet, Internet, Domain Name, URL, IP Address, Website and other applications	MMD#1 Page No. 1-11	Chalk & talk, Topic Slides	Quiz, Unit Test, Internal
	2.2	2	Planning Website: Types of Sites, Lifespan of Site	MMD#1 Page No. 13-17	Chalk & talk, Group Discussion	
	2.3	1	An Overview of Web Technologies	HBB#1 Page No. 3-7	Topic Slides, Group Discussion	
	2.4	3	Markup Language Elements: Root, Metadata, Heading, Paragraph, Lines, Formatting, Form, Listing, Linking, Table	MMD#2 Page No.27-29,32-36, 107-114, 119-123, 220-230	Chalk & talk, Demonstration	

	2.5	1	Markup Language Character Entities	HBB#2 Page No. 56-57	Chalk & talk	
<b>Unit-3: Advanced Markup Language</b>						
3	3.1	2	Form Attributes	HBB #1 – Page no.- 12, HBB #8- Page no. 190-191, <a href="http://www.w3schools.com/html/html_form_attributes.asp">http://www.w3schools.com/html/html_form_attributes.asp</a>	Chalk & talk, Topic Slides	Unit Test, Internal
	3.2	1	Semantic Elements	HBB #1 – Page no.- 8-9, 41-43, HBB #2 – Page no.- 64,71 HBB #3 – Page no.- 92-93, 110 HBB #9 – Page no.- 234, 237,242 HBB #10 – Page no.- 252, 263	Chalk & talk, Topic Slides	
	3.3	2	Graphics Elements	HBB #1 – Page no.- 9, 175, 187-188, <a href="http://www.w3schools.com/svg/default.asp">http://www.w3schools.com/svg/default.asp</a>	Demonstration	
	3.4	1	Multimedia Elements	HBB#8 Page No. 253-263 <a href="http://www.w3schools.com/tags/tag_source.asp">http://www.w3schools.com/tags/tag_source.asp</a> , <a href="http://www.w3schools.com/tags/tag_track.asp">http://www.w3schools.com/tags/tag_track.asp</a>	Chalk & talk, Topic Slides	
	3.5	1	Advance Input Element's Attributes	HBB #1– Page no.- 12-13, <a href="http://www.w3schools.com/html/html_form_attributes.asp">http://www.w3schools.com/html/html_form_attributes.asp</a>	Chalk & talk, Topic Slides	
	3.6	2	Types of Input Element	HBB #8– Page no.- 191-194	Demonstration, Two minutes game	
	<b>Unit-4: Applying Styles</b>					
4	4.1	2	Syntax and Structures of Applying Styles	HBB #18– Page no.- 466-468 <a href="http://www.w3schools.com/css/css_intro.asp">http://www.w3schools.com/css/css_intro.asp</a>	Chalk & talk, Topic Slides	Quiz, Unit Test, Internal
	4.2	2	Styling Selectors: Element, Class, ID, Pseudo and Universal	HBB #18– Page no.- 469-472	Chalk & talk, Topic Slides	
	4.3	2	Applying Styles using Inline, Internal and External	HBB #18– Page no.- 472-474	Chalk & talk, Topic Slides	
	4.4	2	Styling Properties: Font, Display, Box, Background and Border	HBB #19– Page no.- 488-503	Demonstration, Code rearrange	

Unit-5: Scripting Language						
5	5.1	2	An Overview of Server-side and Client-side Scripting Languages	MMD#15 Page No. 423-426 HBB #11– Page no.- 265-267	Topic Slides	Internal
	5.2	1	Embedding Scripting Language into Web Page	MMD#15 Page No. 256-431 HBB #11– Page no.- 267-268	Topic Slides	
	5.3	1	Variables and Data types	MMD#15 Page No. 431-434 HBB #11– Page no.- 269-275	Topic Slides	
	5.4	1	Conditional and Looping Statements	HBB #11– Page no.- 280-284	Topic Slides	
	5.5	2	Array: Declaration, Initialization and Operations	HBB #13– Page no.- 346-348	Chalk & talk, Demonstration	
	5.6	2	User-defined Functions: Creation, Calling and Return a Value	MMD#15 Page No. 434-440 HBB #12– Page no.- 306-309	Chalk & talk, Code rearrange	

Unit-6: Scripting Language Libraries						
6	6.1	1	Incorporating Scripting Language Library into webpage	HBB #39– Page no.- 1088-1092	Topic Slides	Internal
	6.2.1	2	Retrieving Attributes of Markup Language Elements	HBB #39– Page no.- 1095-1096	Topic Slides	
	6.2.2	2	Traversing Markup Language Elements	HBB #39– Page no.- 1096-1097	Chalk & talk, Demonstration	
	6.3	2	Handling Mouse and Keyboard Events	HBB #39– Page no.- 1099-1101	Chalk & talk, Demonstration, Two minutes game	

**Text Book:**

1. Wilbert O. Galitz, The Essentials Guide to User Interface Design, Wiley [UID]
2. HTML5 Black Book, Covers CSS 3, JavaScript, XML, XHTML, AJAX, PHP and jQuery, DreamTech Press [HBB]

**References:**

1. Matthew MacDonald - Creating a Website: The missing manual SPD – O’Reilly [MMD]

**Note: # denotes chapter number.**

**Course Objectives and Course Outcomes Mapping:**

- ❖ To explore concepts of web designing and develop user interface using markup language: C01, C02
- ❖ Applying styles: C03
- ❖ Usage of scripting language: C04, C05

**Course Units and Course Outcomes Mapping:**

Unit No.	Unit	Course Outcomes				
		C01	C02	C03	C04	C05
1	Basics of User Interface	✓				
2	The Web and Markup Language		✓			
3	Advanced Markup Language		✓			
4	Applying Styles			✓		
5	Scripting Language				✓	
6	Scripting Language Libraries					✓

**Programme Outcomes:**

- PO1: Ability to understand the concepts of key areas in computer science.
- PO2: Ability to design and develop system, component or process as well as test and maintain it so as to provide promising solutions to industry and society.
- PO3: Effective communication and presentation skill.
- PO4: Ability to understand professional and ethical responsibility.
- PO5: Recognition of the need for life-long learning.

**Course Outcomes and Programme Outcomes Mapping:**

Course Outcomes	Programme Outcomes				
	PO1	PO2	PO3	PO4	PO5
C01	✓		✓		✓
C02	✓	✓			
C03	✓	✓			
C04	✓	✓		✓	✓
C05	✓	✓		✓	✓

**Computing Environment**

A student must have the following computing environment in laboratory and or on his/her laptop.

- ❖ A Web Browser
- ❖ Notepad/gedit editor
- ❖ Demonstrate topics 2.4 to 2.5 in HTML, 3.1 to 3.6 in HTML5, 5.2 to 5.6 in JavaScript/AngularJS and 6.1 to 6.3 in jQuery/AngularJS.

**Modes of Transaction (Delivery):**

Unit No	Topic Detail	Teaching Approach	PO mapped
2	Applying Style	Pick and Speak (Students shall pick one chit on the spot and have to give some explanation on the element or property which is written on the chit within one minute.)	PO1, PO3, PO5
3	Scripting Language	Code arrangement (Students shall arrange scattered designing code of webpage based on layout given by the course teacher.)	PO2, PO5

**Activities/Practicum:**

The following activity shall be carried out by the students.

Self Study:

- ❖ Study HTML elements: Paragraph, LineBreaks and Horizontal lines.

The following activity shall be carried out by the teacher.

Learner	Activities to be done	PO mapped
<b>For slow learners</b>	Students have to solve question on black board which are assigned to them.	PO2, PO3
<b>For advanced learners</b>	Students have to write a code for layout which is provided by subject teacher.	PO2, PO5

<b>For all</b>	Assign 2 or 3 questions after the end of week, and students have to write in their note book. Course teacher shall spare 15 minutes to discuss the same.	PO2, PO3, PO4
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**Number of Practical Problems in Journal: 14**

**Total sets to be developed for each division: 02**

Unit Number	Number of Questions	Time required to implement and debug the question (in hours)	Minimum required of Journal Certification
Unit -2	3	12	3
Unit -3	3	9	3
Unit -4	3	12	3
Unit -5	3	9	3
Unit -6	2	6	2
<b>TOTAL</b>	<b>14</b>	<b>48</b>	<b>14</b>

**Concept Linkage:**

Unit/Sub Unit	Prior Concept Linkage	Post Concept Linkage
2.4,2.5,3.1	-	060060407: Unit 2: 2.1, 2.2, Unit 4: 4.2,4.3
4	-	060060508: Unit 2: 2.5, Unit 6: 6.2
5.3 to 5.6	060060106: Unit 1: 1.4, Unit 2: 2.5 to 2.6, Unit 3: 3.1 to 3.3	-

- ❖ The concepts mentioned in prior concept linkage shall be taken as base and revised in context of the respective unit/sub-unit by the course teacher.
- ❖ The concepts mentioned in post concept linkage shall be correlated by the course teacher during the discussion of the respective unit/sub-units.