Course Syllabus
Gyanmanjari Institute of Technology
Semester-3 (B.Tech.)

Subject: Web Designing-BETCE13304

Type of course: Major (Core)

Prerequisite: Basic Knowledge of HTML

Rationale:

In the era of digitization, the demand for Internet-based applications is surging, driving the need for skilled developer's adept in both front-end and back-end design. This comprehensive course aims to immerse students in the intricacies of web development, empowering them to navigate the dynamic landscape of the Internet-driven world with confidence. By focusing on both front-end and back-end design principles, learners will gain a holistic understanding of the development process, from creating visually engaging user interfaces to implementing robust server-side functionalities.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks					Total Marks
				Theory Marks		Practical Marks		CA	
CI	T	P	C	ESE	MSE	V	P	ALA	
4	0	2	5	60	30	10	20	30	150

Legends: CI-Class Room Instructions; T – Tutorial; P - Practical; C – Credit; ESE - End Semester Examination; MSE- Mid Semester Examination; V – Viva; CA - Continuous Assessment; ALA- Active Learning Activities.

Course Content:

Sr. No	Course content	Hrs.	% Weightage
1	**Introduction to Web Technology and Design** Internet and Web, HTTP Protocol, Architecture of web browser, Introduction to Web Technologies, HTML, CSS, Java Script, Bootstrap, Concepts of effective web design, Web design issues, Designing effective navigation. fundamental of web page, static and dynamic website design.	12	20

2	**HTML & CSS** **HTML**: HTML page structure, Basic HTML tags like heading, formatting tags paragraph, formatting text, organizing text, list, anchor, images, HTML tables, HTML forms, meta tags, multimedia tags, links, frames, HTML5 tags in relation to validations. **CSS**: Introduction to CSS, Basic Syntax and structure of CSS, Need for CSS, Types of CSS, Background Properties, manipulating text and font, The Box Model, styling list, CSS Positioning, Colors and properties, borders and boxes, Margins, Padding Lists, CSS2, CSS3, Animations, Tool-Tips, Style images, Variables, Flex Box, Media Queries, Working with Gradients.	15	25
3	**JavaScript** JavaScript Syntax, Types of JavaScript, variables, arrays, functions, conditions, loops, Pop up boxes, JavaScript objects and DOM, JavaScript inbuilt functions, JavaScript validations, Regular expressions, Event handling with JavaScript, Callbacks in JavaScript, Function as arguments in JavaScript.	15	25
4	**Bootstrap:** Introduction to bootstrap, download and load bootstrap, Typography, Images, Figures, Tables, Container, Break point, Grid System, Designing Forms, Components of Bootstrap, Helper classes in Bootstrap, Utilities in Bootstrap, Loading Icon library like font-awsome, SVG icons.	08	13
5	**Advance Web designing** **AJAX**: Understanding the concept of AJAX and its importance in web development, XMLHttpRequest Object, Methods and Properties. **jQuery:** Working with jQuery, using plugins in jQuery and Creating Image slider, generating charts from data using 3rd Party Libs.	10	17

Continuous Assessment:

Sr. No	Active Learning Activities	Marks
1	**HTML & CSS Debugging Adventure** Faculty Provide students with HTML and CSS code containing deliberate errors, such as syntax mistakes, missing semicolons, or incorrect selectors. Student has to fix those errors and upload it along with the solution and output on GMIU Web Portal.	10

2	**Creative Animation Challenge** Students have to prepare animation effect using Java Script as per the instruction given by subject faculty. Upload solution (code) and output (animation screenshot) on GMIU Web Portal.	10
3	**Innovate Sphere:** Student has to prepare a website in group of 2 member with incorporating HTML, CSS, Bootstrap and Advance web technology to address a practical real-time definition and upload it along with the solution and output on GMIU Web Portal.	10
	Total	30

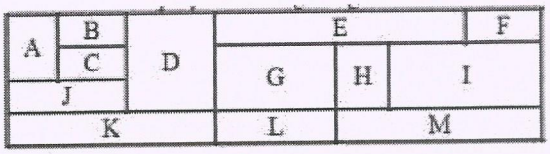
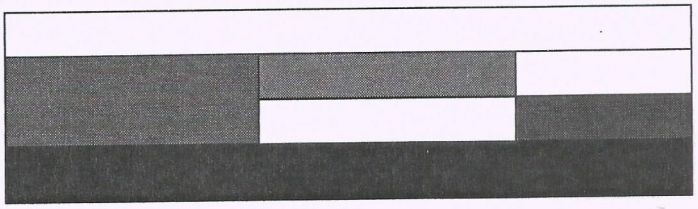
Suggested Specification table with Marks (Theory):60

Distribution of Theory Marks (Revised Bloom's Taxonomy)						
Level	**Remembrance (R)**	**Understanding (U)**	**Application (A)**	**Analyze (N)**	**Evaluate (E)**	**Create (C)**
Weightage	20%	30%	30%	10%	-	10%

Course Outcome:

After learning the course, the students should be able to:	
CO1	Describe the basics of Internet, Web and Web Designing.
CO2	Use HTML to design static webpage and basic styling using CSS.
CO3	Develop Client-side programs using Java Script.
CO4	Design responsive web pages using bootstrap.
CO5	Apply advanced AJAX and jQuery for building highly interactive web pages.

List of Practical

Sr. No	Descriptions	Unit No	Hrs.
1	Write different steps of planning and publishing website.	1	1
2	Write a program that demonstrates heading, formatting, font and color tags of HTML.	2	2
3	Write HTML codes for displaying image and demonstrate hyper linking.	2	1
4	Write a code for design menu system using list tag.	2	2
5	Create Signup form using Input element.	2	2
6	Write a program to demonstrate I. Meta tags II. Frames III. Frame sets	2	2
7	Write HTML code to display following irregular table. 	2	2
8	Write down HTML / CSS code to create the following table. 	2	2
9	Write the following styles in separate CSS file and also show how to link this CSS file in HTML file and show use of styles. (i) The headings should have normal font style and font size should be 120%. (ii) Define a class Arial for paragraph which defines font family Arial and font style bold. (iii)Apply a background color yellow and apply a background image.	2	2
10	Perform Following java script function using Example [a] alert() [b] prompt() [c] confirm()	3	1
11	Write JavaScript program to print 1 to N prime Number where number is entered by HTML form.	3	1
12	Design a login form using HTML & JavaScript with following validations on username and password fields. 1. Password length must be 6 to 12 characters 2. Username should not start with _, @ or number 3. Both should not be blank	3	2

13	Write HTML, Bootstrap code for create given designs 1. Use Bootstrap typography to print permanent address. 2. Use Bootstrap typography to put abbreviation in paragraph. 3. Use Bootstrap typography to align text (left, center, right). 4. Create Unstyled list using Bootstrap typography. 5. Use Bootstrap to display responsive image in webpage. Also use alignment to align it in left, center and right side of using thumbnail webpage.	4	4
14	Create a web page of given design using the grid system of bootstrap.	4	2
15	Create Signup form using HTML and Bootstrap.	4	2
16	Creating an Image Slider with jQuery.	5	2
		Total	30

Instructional Method:

The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.

Students will use supplementary resources such as online videos, NPTEL/SWAYAM videos, e-courses, Virtual Laboratory
The internal evaluation will be done on the basis of Active Learning Assignment
Practical/Viva examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

Reference Books:

[1] Web Technology: A Developer's Perspective By N.P.Gopalan, J. Akilandeswari, PHI Learning

[2] Developing Web Application by Ralph Moseley, Wiley India.

[3] HTML5 Black Book, Dreamtech Press.

[4] A Step-by-Step Guide to Creating Dynamic Websites by Robin Nixon Publisher: O'Reilly Media.