PARVATHANENI BRAHMAYYA
SIDDHARTHA COLLEGE OF ARTS & SCIENCE
Autonomous
Siddhartha Nagar, Vijayawada–520010
Re-accredited at 'A+' by the NAAC

Course Code				**23DAMAL231**			
Title of the Course				**User Interface Design**			
Offered to:				**B.Sc., Honors. (Data Analytics)**			
L	**4**	**T**	**0**	**P**	**0**	**C**	**4**
Year of Introduction:	**2024-25**			**Semester:**			**3**
Course Category:	**Major**			**Course Relates to:**	**Global**		
Year of Revision:	**-**			**Percentage:**	**-**		
Type of the Course:				**Skill Development**			
Crosscutting Issues of the Course :				**-**			
Pre-requisites, if any				**--**			

Course Description:

This course provides a comprehensive introduction to web development using HTML, CSS, JavaScript, and XML. Students will learn to create and style web pages, add interactivity, and manage data effectively. The course covers web architecture basics and focuses on hands-on projects, including the development of a static web page for a college department and a dynamic web page for a library system with user account management capabilities. By the end of the course, students will have a solid understanding of web development concepts and the skills needed to build both static and dynamic web pages for various real-world applications and scenarios.

Course Aims and Objectives:

S.NO	COURSE OBJECTIVES
1	Focus on understanding basic web concepts and creating simple web pages using HTML.
2	Learn to style web pages using CSS, including advanced features like text effects and layouts.
3	Use JavaScript to make web pages interactive, including form validation and event handling.
4	To Understand and use XML for data management and transformation.
5	To Apply skills to create static and dynamic web pages, preparing students for advanced projects and courses in computer science.

Course Outcomes

At the end of the course, the student will be able to…

CO NO	COURSE OUTCOME	BTL	PO	PSO
CO1	**Describe** web technologies, including HTML elements and basic web page creation.	**K1**	**PO1, PO5, PO6, PO7**	**PSO1, PSO2**
CO2	**Understand** CSS to style web pages, including text effects, fonts, and page layouts.	**K2**	**PO1, PO5, PO6, PO7**	**PSO1, PSO2**
CO3	**Develop** interactive web pages using JavaScript for form validation and event handling.	**K3**	**PO1, PO5, PO6, PO7**	**PSO1, PSO2**
CO4	**Design**and validate XML documents, and use XSL for transforming XML data.	**K5**	**PO1, PO5, PO6, PO7**	**PSO2**
CO5	**Create** static and dynamic web pages for real-world applications.	**K6**	**PO1, PO5, PO6, PO7**	**PSO2**

For BTL: K1: Remember; K2: Understand; K3: Apply; K4: Analyze; K5: Evaluate; K6: Create

CO-PO MATRIX									
CO NO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**
CO1	**3**	**-**	**-**	**-**	**2**	**3**	**3**	**3**	**1**
CO2	**3**	**-**	**-**	**-**	**2**	**3**	**3**	**3**	**2**
CO3	**3**	**-**	**-**	**-**	**3**	**3**	**2**	**3**	**3**
CO4	**3**	**-**	**-**	**-**	**3**	**3**	**3**	**1**	**3**
CO5	**3**	**-**	**-**	**-**	**3**	**3**	**3**	**2**	**3**

Use the codes 3,2,1 for High, Moderate and Low correlation Between CO-PO-PSO respectively

Course Structure:

Unit – 1 : [Introduction to Web] (12Hrs)

Introduction to Web – Client/Server – Web Server – Application Server – HTML Basics – Tags–Adding Web Links and Images – Creating Tables – Forms – Create a simple Web Page – HTML5 Elements – Media – Graphics.

Examples/Applications/Case Studies:

- Construct a timetable by implementing HTML table elements.

Exercises/Projects:

- Develop a login form for a basic web page.
- Write a program to create the time table by using Table Tags.

Specific Resources: (web)

- W3 Schools

Unit – 2 : [Dynamic HTML(CSS)] (12Hrs)

CSS Basics – Features of CSS – Implementation of Borders – Backgrounds – CSS3 – Text Effects - Fonts – Page Layouts with CSS – Types of Style Sheets – Class as Selector, ID as Selector – Event Handling – Filters and TransitionFilters.

Examples/Applications/Case Studies:

- Develop a CSS stylesheet to change the background color of a webpage.

Exercises/Projects:

- Create a CSS stylesheet to add padding and margin to elements on a webpage.

Specific Resources: (web)

- W3 Schools

Unit – 3 : [JavaScript] (12Hrs)

- Introduction to Java Script – Form Validation – Event Handling
- Design using Document Object Model – Deploying an application.

Examples/Applications/Case Studies:

- Write a Java Script to update the information into the array, in the “onClick” event of thebutton “Update”.

Exercises/Projects:

- Create a dynamic dropdown menu that expands on click using CSS and JavaScript**.**

Specific Resources: (web)

- W3 Schools

Unit – 4 : [XML] (12Hrs)

XMLIntroduction, HTML vs. XML, Syntax of XML Document, XML Attributes, XML Validation, XML DTD, DTD Elements, DTD Attributes, XSL, XSL Transformation, XML Name Spaces, XML Schema.

Examples/Applications/Case Studies:

- Create a simple XML document to represent a list of books with their titles, authors, and publication dates.

Exercises/Projects:

- Create a simple XML document with root element “Data” and two child elements “item”.
- Design a document that how do you include an internal DTD within an XML document.

Specific Resources: (web)

- W3 Schools

Unit – 5 : [Creating a static/Dynamic Web Pages] (12Hrs)

- Create a static webpage for your college department.
- Create a dynamic webpage for the library, featuring user account management capabilities and an interactive form for user interactions.

Examples/Applications/Case Studies:

- Create a static webpage for your college department, ensuring it includes all necessary features and functionalities.

Exercises/Projects:

- Create a dynamic webpage for the library, featuring user account management capabilities and an interactive form for user interactions. The page should allow users to log in, manage their accounts, and interact with the library's resources.

Specific Resources: (web)

- W3 Schools

Text Books:

1. Kogent Learning Solutions Inc. (2013). HTML5 Black Book: Covers Css3, Javascript, Xml, Xhtml, Ajax, PhpAndJquery (2nd Edition), Dreamtech Press.

2. Tittel E, Minnick C, (2013). Beginning HMTL5 and CSS3 For Dummies (3rd Edition), John Wiley & Son’s.

References:

1. Godbole and Khate (2017), Web Technologies Paperback – Picture Book (3rd Edition), McGraw Hill Education

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SEMESTER -END QUESTION PAPER STRUCTURE

Course Code & Title of the Course:	**23DAMAL231** **User Interface Design**
Offered to:	**B.Sc., Honors. (Data Analytics)**
Category:	**SEMESTER: 3**
Max. Marks	**70**
Max.Time	**3 Hrs**

Section A: Short Answer Questions (20 Marks)

Answer All questions. Each question carries 4 Marks.

Q1 (a) List and explain three basic HTML tags used to build a webpage.(K3)

OR

(b) How do you create tables and forms in HTML? Provide a simple example for each.(K3)

Q2 (a) What is CSS? How do you use CSS to style borders and backgrounds?(K2)

OR

(b) Explain Class and ID selectors in CSS with examples.(K2)

Q3 (a) Describe how JavaScript handles form validation. Include a basic example.(K3)

OR

(b) What is the Document Object Model (DOM) and how does it interact with JavaScript?(K3)

Q4 (a) What is XML? Describe its basic syntax and attributes.(K2)

OR

(b) How does XML DTD work for document validation? Provide an example.(K2)

Q5 (a) What are the key components of a static webpage for a college department?(K3)

OR

(b)What steps are involved in creating a dynamic library webpage with user login features?(K3)

Section B: Long Answer Questions (50 Marks)

Answer All questions. Each question carries 10 Marks.

Q6 (a) Create a simple webpage using HTML that includes links, images, a table, and a form.(K5)

OR

(b) Explain the differences between a web server and an application server with examples.(K5)

Q7 (a) Describe the use of filters and transitions in CSS with examples.(K3)

OR

(b) Create a CSS stylesheet to style a webpage with different types of style sheets.(K3)

Q8 (a) Explain event handling in JavaScript with examples of different event types.(K3)

OR

(b) Develop a simple JavaScript function that interacts with HTML elements on a webpage.(K3)

Q9 (a) Create an XML document to represent a list of books with titles, authors, and publication dates.(K4)

OR

(b) Describe the role of XSL in XML transformation with an example.(K4)

Q10 (a) Develop a static webpage for a college department with sections for faculty, courses, and contact details.(K5)