

## **SEMESTER - II**

# St. Xavier's College (Autonomous), Ahmedabad

Syllabus of Semester – II of the following departments under Faculty of Computer Science based on Undergraduate Curriculum Framework to be implemented from the Academic Year 2024-25.

## DEPARTMENT OF COMPUTER SCIENCE

### BCS CS (Hons.) Category – IV

#### Major – 1: Web-Designing with DHTML (Theory)(CS-2501)

#### CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title & Code	Credit Distribution of The Course			Eligibility Criteria	Prerequisite(s) of the Course (if any)
	Lecture	Tutorial	Practical / Practice		
Web-Designing with DHTML	4	0	0	10 + 2 from a recognized board in any stream	Nil

#### Learning Objectives

This course is aimed to make students familiar with dynamic web page creation tools like cascading style sheet, JavaScript and jQuery. The student would be able to develop dynamic webpage/website using DHTML.

#### Learning Outcomes:

- To familiarize with the different basic html tags and list operations.
- To give awareness about the tags used for table, forms and frames
- Understand the basic as well as advance features of CSS.
- Acquire the knowledge to develop the dynamic webpages using JavaScript.
- Learn the fundamentals of jQuery.

#### UNIT 1:

**Introduction to HTML:** Introduction, HTML document structure, Adding text in newline(<Br></BR> ), Creating heading (<h1></h1> to <h6></h6>), Creating a paragraph (<P></P>), Creating a horizontal ruler (<HR></HR>), Sub Script, Super Script, TextAlignment(<align></align>), Formatting Of text (<B>, <U>, <I>), Font tag with all attributes, Scrolling text<marquee></marquee> with its attributes) HTML Comment.

**Working with List:** Ordered list, unordered list, Description list

Creation of Hyperlinks: <a> anchor tag and its attributes.

**Working with Tables:** Creation of Tables with all the related tags and its attributes.

**Working with Images:** <img></img> & all its Attributes, Creating Image maps (<map></map> &

<area>---</area>) and their attributes.

**Working with Forms:** Creating form(<form>---</form>) & all its attributes, Adding controls to an HTML form, <Input>---</input> tag and its all attribute, <text area>...</text area>, Adding a selection control  
Grouping the control of html forms( <Field set> and <legend> tags)

## UNIT 2:

**Introduction to CSS:** Understanding the concepts of CSS - Advantages and disadvantages - **CSS syntax** - Grouping selectors and rulers - Using the class selectors - Using the ID selectors - Comparing ID and classes selectors - Using CSS comments

**Types of Style sheets:** External – Internal – Inline

**CSS properties and text attributes:** Color – Alignment – Decoration – Transformation – Indent - Letter spacing and word spacing - White - pace - Line-height – Direction - Unicode-bidi

**CSS Padding:** Using padding properties - Setting padding for all sides - Setting padding for each side - List properties (list-style-images, list- style-position, list style - type, list-style) - CSS positioning(relative, absolute, fixed and Z-index) - CSS properties and table attributes **Advance CSS:** Css rounded corners - Border images - Css gradient - Css shadow - Css font & Text effects - Css 2D & 3D Transform - CSS transition & Animations

## UNIT 3:

**JavaScript Introduction:** Understanding JavaScript - About Dynamic HTML - Selecting a development environment for JavaScript - HTML and JavaScript

**Advanced JavaScript:** Element of JavaScript – Variables – Operators - Flow control statement – Arrays – Functions - Event handling - Browser and JavaScript - Web page and JavaScript - validating User forms

**Introduction to jquery: About jquery**

**Using jquery:** The two jquery downloads - Including jquery (Using script) - Basic jquery syntax - Connecting jquery to the load event

## UNIT 4:

**Introduction to jquery :About jquery**

**Using jquery:** The two jquery downloads - Including jquery (Using script) - Basic jquery syntax - Connecting jquery to the load event **Using Selectors:** Selecting elements by ID - Selecting elements by Class - Selecting elements by Type - Selecting elements by Hierarchy - Selecting elements by Attribute

**Functions:** Traversing the DOM - Changing text and HTML - Inserting Elements

**Events:** Binding and Unbinding - All Events

## **Textbook:**

### **1. A Complete Guide to Internet and Web Programming (Edition-2010)**

Publisher: Dream Tech Press.

By Deven N. Shah Publisher: DreamTech Press (Chapter-3, 4 for unit 1,2)

### **2. Javascript 2nd Edition Step by step**

Publisher: Microsoft Corporation by: O'Reilly Media, Inc By Steve suehring

(Chapter-22 for unit 3)

## **Reference Books:**

### **1. Dynamic HTML & XML**

Publisher: Computer world

By: vimal pandya, Manali brahmbhatt, Maulik patel

### **2. DHTML and CSS Advanced(First Edition-2006)**

Publisher: Pearson Education. By Jason

cranford Teau

### **3. Java Script Indian Edition(First Edition-2008)**

Publisher: CENGAGE Learning By

Gosselin

### **4. HTML 5, Javascript and jQuery 24-Hour Trainer**

Publisher: Wiley Publication

By Dane Cameron



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## DEPARTMENT OF COMPUTER SCIENCE

### BCS CS (Hons.) Category – IV

#### Major – 2: Web-Designing with DHTML (Lab)(CS-2502L)

#### CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title & Code	Credit Distribution of The Course			Eligibility Criteria	Prerequisite(s) of the Course (if any)
	Lecture	Tutorial	Practical / Practice		
Web-Designing with DHTML	0	0	8	10 + 2 from a recognized board in any stream	Nil

#### Learning Objectives

This course is aimed to develop the skill about the advanced topics of DHTML. Students are able to make the interactive web site after learning this course.

#### Learning Outcomes:

- Apply the basic & advance features of CSS to develop webpage/site.
- Develop the dynamic webpages/website using JavaScript.
- Implement the fundamentals of jQuery for webpage/site development.

#### UNIT 1:

1. Write HTML program which contains internal cascaded style sheet for p, h2, h3, body and font attribute.
2. Write HTML program which contains inline cascaded style sheet for text attributes.
3. Write HTML program which contains external cascaded style sheet for List properties user defined Classes and Id.
4. Write HTML program which contains all the css positioning properties through internal css using class selector.
5. Write HTML program using clip property & z-index property through external css.
6. Write HTML program which contains cascaded style sheet with margin attributes of style sheet.
7. Write HTML program which contains internal style sheet with background & border attributes of style sheet.
8. Write HTML program which contains external style sheet with Css font & css text effects

9. Write HTML program which contains cascaded style sheet with Css 2D & 3D Transform.
10. Write HTML program which contains external css using CSS transition & animations.

### **UNIT II:**

11. Write a Javascript to print your name and surname on screen.
12. Write a JavaScript program to calculate area of circle.( $3.14*r*r$ )
13. Write a javascript to find the grade from student result using if condition.
14. Create JavaScript program to create mathematical calculator. (functionality +,\*,-,/)
15. Write JavaScript to demonstrate the use of different dialogue boxes. For example: write messages good morning, good bye etc, take value from alert, confirmation for any operation.
16. Write a JavaScript program to validate a form which consist of name, Age, address, hobby(checkbox), gender(radius button), email.
17. Write a simple jquery program to print alert message hello world.
18. Test if jQuery is loaded.
19. Write a jquery program to hide the paragraph using class.
20. Write a jquery program to hide the division block using id.

### **UNIT III:**

21. Small Project: Select the topic for website designing and design five attractive web pages using all css properties also use java script for login 10 , registration form ect.
22. Write a simple jquery program to print alert message hello world.
23. Test if jQuery is loaded.
24. Scroll to the top of the page with jQuery
25. Disable right click menu in html page using jquery
26. Write a jquery for Limit character input in the text area including count
27. Write a jquery to Display a message when the context menu event is triggered on the paragraph elements

### **UNIT IV:**

28. Create an XML document template to describe the book structure which contains publish year. According to book publish year it show as book title, author & publication.
29. 2. Create an XML document to demonstrate how to add attribute and sub element in the examination structure. The description should include the student's roll number, name, three subject names and their marks, total marks, percentage and result.
30. Create an XML document for employee structure which contains employee no, employee name, department, designation, salary.
31. Create library structure using namespace concept. It should contains the information of book issue (number, title, name, publisher ) and information of Members (number, title, name, issue\_date)
32. Write program to demonstrate how to add character Entity in XML document.
33. Write program to demonstrate how to add text Entity in XML document.
34. Create internal DTD declaration for BOOKs XML document.
35. Create External DTD declaration for BOOKs XML document.(Element type declaration)
36. Write program to demonstrate the valid DTD & well-formed XML documents.
37. Write program to demonstrate sequence, occurrence & choices in DTD .
38. Write a program to describe Empty, Any and Mixed content in DTD.
39. Write a program to describe string & enumerated Attributes declaration in DTD.
40. Write a program to describe id & idref attributes declaration in DTD

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## DEPARTMENT OF COMPUTER SCIENCE

### BCS CS (Hons.) Category – IV

#### Computer Organization and Introduction to Microprocessor (SEC2650)

#### **CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE**

Course Title & Code	Credit Distribution of The Course			Eligibility Criteria	Prerequisite(s) of the Course (if any)
	Lecture	Tutorial	Practical / Practice		
Astronomy for Everyone	2	0	0	10 + 2 from a recognized board in any stream	Nil

#### **Learning Objective:**

1. Discuss the basic concepts and structure of computers.
2. Understand concepts of register transfer logic and arithmetic operations.
3. Explain different types of addressing modes and memory organization.

#### **Learning Outcome:**

- Understand the theory and architecture of central processing unit.
- Understand the architecture and functionality of central processing unit.
- Exemplify in a better way the I/O and memory organization.

#### **Unit 1:**

- Von Neumann Architecture
- BUS concepts
- Interrupts Concepts
- Device Controller & Device Driver

- Types of Computer Memory (Hierarchy)
- Main Memory, Axillary Memory
- CAM, Virtual Memory
- Cache Principal
- Cache Replacement
- Memory Mapping Techniques
- Registers and Concept of Flip flop
- Concept of Adders, Encoder, Decoder, MUX and DMUX

## **Unit 2:**

- Digital Signals
- Logic Gates
- Boolean Expression and Digital Circuit
- Boolean Expression and Digital Circuit
- Integrated Circuits
- Sequential Circuits vs Combinations Circuits
- Logic Families
- Introduction to Embedded Systems
- Introduction of Microprocessor
- Microprocessor 8086 pin diagram
- Mobile Processors
- Latest Processors

### **Text Book:**

- 1) Computer System Architecture By: M. Morris Mano  
Publisher: PHI
- 2) Computer Architecture and Organization By: B. Govindrajalu  
Publisher: McGrawHill
- 3) Computer Organization and Advanced Microprocessors By: Tripti Dodiya & Zakiya Malek  
Publisher: Cengage

### **Reference Books:**

- 1) Advanced Microprocessors and Interfacing By:  
- Badri Ram  
Publisher: Tata Mcgraw Hill