

SRM VALLIAMMAI ENGINEERING COLLEGE

(An Autonomous Institution)

SRM Nagar, Kattankulathur – 603 203

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

QUESTION BANK



V SEMESTER

**CS3564 - Web Development and User
Interface Design**

Regulation – 2023

Academic Year 2025 – 2026 (Odd Semester)

Prepared by

Dr. G. Kumaresan, Associate Professor /CSE

Ms.Suma.S, Assistant Professor (Sel.G)/CSE

Dr.Venkatesh.S, Assistant Professor (Sr.G)/CSE



SRM VALLIAMMAI ENGINEERING COLLEGE

(An Autonomous Institution)
SRM Nagar, Kattankulathur – 603 203.



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING QUESTION BANK

SUBJECT : CS3564–Web Development and User Interface Design

SEM / YEAR: V Sem/ III Year

UNIT - I: WEB BASICS, HTML AND CSS							
Web Essentials: Clients, Servers, and Communication. The Internet-Basic Internet Protocols -The World Wide Web-HTTP request message-response message-Web Clients Web Servers. Markup Languages: Fundamental HTML Elements-Relative URLs-Lists-tables-Frames-Forms-Style Sheets: CSS-Introduction to Cascading Style Sheets-Features-Core Syntax-Style Sheets and HTML-Style Rule Cascading and Inheritance- Text Properties-Box Model Normal Flow Box Layout- Beyond the Normal Flow.							
PART – A							
Q.No	Questions	BT Level	Competence				
1.	List types of web pages.	BTL1	Remembering				
2.	Define URI.	BTL1	Remembering				
3.	State the use of web server logs and list the contents of a message log.	BTL2	Understanding				
4.	List the different basic protocols used in Internet.	BTL1	Remembering				
5.	What do you mean by Relative URLs?	BTL1	Remembering				
6.	Write the functions of a Web Server.	BTL2	Understanding				
7.	How a DNS server translates or resolves domain names into IP addresses?	BTL2	Understanding				
8.	State the uses of Internet Protocol.	BTL2	Understanding				
9.	Write short notes on basic Internet protocols.	BTL2	Understanding				
10.	List and explain the three flavors of HTML.	BTL1	Remembering				
11.	Write the functions of DNS and the protocol used.	BTL2	Understanding				
12.	List and explain any two HTML elements.	BTL1	Remembering				
13.	How HTML frames can be used to create two horizontal rows on a webpage?	BTL2	Understanding				
14.	Write the CSS code to a web page with the following requirements (i) Add a background image of a submarine. (ii) Set a color to the span elements (different color for each class)	BTL2	Understanding				
15.	How will you create a password field in a HTML form?	BTL2	Understanding				
16.	Write HTML code to create the following table, <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>W</td> <td>X</td> </tr> <tr> <td>Y</td> <td>Z</td> </tr> </table>	W	X	Y	Z	BTL2	Understanding
W	X						
Y	Z						
17.	How external style sheet is useful in web page design?	BTL2	Understanding				
18.	What is meant by canvas in HTML?	BTL1	Remembering				

19.	Write the syntax to display the following statement “I am learning Web Programming”	BTL2	Understanding
20.	How a scripting language differs from HTML?	BTL2	Understanding
21.	Give the syntax for implementing external CSS.	BTL2	Understanding
22.	Write the need for cascading style sheets.	BTL2	Understanding
23.	How will you include CSS in a web site?	BTL2	Understanding
24.	What is Normal Flow Box Layout in CSS?	BTL1	Remembering
PART – B			
1.	(i) Explain types of domain in DNS. (7) (ii) Explain the purpose and way of creating lists in HTML documents. (6)	BTL2	Understanding
2.	Recall in detail about Internet and World Wide Web. (13)	BTL1	Remembering
3.	(i) Write a CSS which adds background images and indentation. (7) (ii) Explain external style sheet with an example. (6)	BTL2	Understanding
4.	(i) List and explain any four HTML elements in detail. (7) (ii) State the types of lists supported by HTML and explain the in detail. (6)	BTL1	Remembering
5.	Create a HTML document for a company home page. (16)	BTL6	Creating
6.	(i) Explain the capabilities of web client and web server. (8) (ii) Write and explain HTTP request message format. (8)	BTL4	Analyzing
7.	Explain the significance of eight CSS text properties (16)	BTL5	Evaluating
8.	How do you create frames? Why do we need them? Develop an application to explain the same. (16)	BTL4	Analyzing
9.	(i) Explain the use of relative URLs with an example. (8) (ii) Explain how tables can be inserted into a HTML document with an example. (8)	BTL3	Applying
10.	List and describe the CSS Border Style Properties in detail with illustration. (16)	BTL1	Remembering
11.	Explain HTML forms in detail along with form elements, attributes and methods. Write an HTML document to provide a form that collect name and telephone numbers. (16)	BTL2	Understanding
12.	Examine in detail CSS border and CSS outline. (16)	BTL4	Analyzing
13.	(i) Explain in detail the functions of a web server. (8) (ii) Give the structure of HTTP request and response messages. (8)	BTL3	Applying
14.	(i) List and explain in detail various selector strings. (8) (ii) Explain the features of cascading style sheets. (8)	BTL1	Remembering
15.	Illustrate Frameset, Frame Tag. Divide the web page into four equal parts each individual part displays different web page. (16)	BTL3	Applying
16.	(i) Explain the structure of the HTML webpage with an example. (8) (ii) Define List Tag with an example. (8)	BTL5	Evaluating

17.	i) Describe the need of scripting languages in web Technologies. (8)	BTL2	Understanding
	ii) Build a HTML program to convert temperature from Celsius to Fahrenheit and vice versa. (8)		

UNIT II - CLIENT SIDE SCRIPTING AND REPRESENTING WEB DATA

Client-Side Programming: Introduction-JavaScript in Perspective-Syntax-Variables and Data Types-Statements-Operators-Literals-Functions-Objects-Arrays-Built-inObjects-JavaScript Debuggers.
XML- Documents and Vocabularies-Versions and Declaration-Namespaces-DOM based XML processing
Event- oriented Parsing: SAX-Transforming XML Documents-Selecting XML Data: XPATH- Template based Transformations: XSLT-Displaying XML Documents in Browsers.

PART – A

Q.No	Questions	BT Level	Competence
1.	State the types of JavaScript statements with examples.	BTL2	Understanding
2.	Write the JavaScript to print “Good Day” using IF-ELSE condition.	BTL2	Understanding
3.	Write code to return the full URL of a document.	BTL2	Understanding
4.	List the different methods defined in document and window object of JavaScript.	BTL2	Analyzing
5.	Explain array creation in JavaScript with example.	BTL2	Understanding
6.	List the types of JavaScript statements with examples.	BTL2	Understanding
7.	What is a JavaScript statement? Give an example.	BTL1	Remembering
8.	List and explain any two JavaScript built in objects.	BTL1	Remembering
9.	What are the advantages of XPATH?	BTL1	Remembering
10.	State XSLT.	BTL1	Remembering
11.	List the elements of a XML tree.	BTL1	Remembering
12.	Write the data types of XML.	BTL1	Remembering
13.	Compare the difference between XML and HTML.	BTL2	Understanding
14.	List out the basic purpose of XSLT.	BTL2	Understanding
15.	Explain the DOM in XML processing.	BTL2	Understanding
16.	Define XML parse tree.?	BTL1	Remembering
17.	What is meant by XSL elements?	BTL1	Remembering
18.	Draw a neat diagram for XML Parse tree.	BTL2	Understanding
19.	Explain how elements are declared in XML.	BTL2	Understanding
20.	Explain the process of how an XML document is displayed in a web browser.	BTL2	Understanding
21.	Show an example for XML namespace.	BTL2	Understanding
22.	Write about DTD in XML Schemas.	BTL2	Understanding
23.	Write about the data types in XML schema.	BTL2	Understanding
24.	List the disadvantages of SAX.	BTL2	Understanding

PART – B

1.	(i) Explain the JavaScript array handling and array methods. (8) (ii) Explain the following JavaScript objects. (8) RegExp, Math.	BTL3	Applying
2.	What are the various JavaScript objects? Explain each with an example. (16)	BTL1	Remembering
3.	Summarize about debugging in JavaScript. (16)	BTL2	Understanding
4.	Explain about the different methods used for Session tracking. (16)	BTL2	Understanding
5.	Write the registration form for the creation of email account with all possible validations using JavaScript. (16)	BTL3	Applying
6.	Show in detail about JavaScript variables and operators. (16)	BTL1	Remembering
7.	Discuss about JavaScript debugging. (16)	BTL4	Analyzing
8.	(i) State and explain the types of statements in JavaScript. (8) (ii) Explain how functions can be written in JavaScript with an example. (8)	BTL4	Analyzing
9.	(i) Write JavaScript to find sum of first 'n' even numbers and display the result. Get the value of 'n' from user. (8) (ii) Write JavaScript to find factorial of a given number. (8)	BTL2	Understanding
10.	(i) List and explain the XML syntax rules in detail. (8) (ii) Explain how XML document can be displayed on a browser. (8)	BTL1	Remembering
11.	Describe in detail about the XML schema, built in and user defined data type detail. (16)	BTL1	Remembering
12.	Explain the procedure for validating the XML Documents. (16)	BTL5	Evaluating
13.	(i) Explain in detail about XSL. (8) (ii) Explain about DOM based XML processing. (8)	BTL4	Analyzing
14.	Discover XML document to store voter ID, voter name, address and date of birth details and validate the document with the help of DTD. (16)	BTL6	Creating
15.	Write XSLT code to display employee details in a Table form which is stored in XML. (16)	BTL3	Applying
16.	a) Distinguish between CGI and Servlets. (8) b) Develop a Servlet that handles an HTTP POST request. (8)	BTL5	Evaluating
17.	(i) Explain the role of XML name spaces with examples. (8) (ii) Explain the features of XML path language. (8)	BTL2	Understanding

UNIT III SERVER-SIDE TECHNOLOGIES

Server-Side Programming: Java Servlets-Architecture -Overview-A Servlet-Generating Dynamic Content-Life Cycle-Parameter Data-Sessions-Cookies-URL Rewriting-Other Capabilities-Data Storage Servlets and Concurrency-Databases and Java Servlets. Separating Programming and Presentation: JSP Technology Introduction-JSP and Servlets-Running JSP Applications Basic JSP-JavaBeans Classes and JSP-Tag Libraries and Files-Support for the Model-View-Controller Paradigm-Databases and JSP.

PART – A

Q.No	Questions	BT Level	Competence
1.	What are servlets?	BTL1	Remembering
2.	List the application of servlets.	BTL2	Understanding
3.	Summarize the advantages and disadvantages of servlets.	BTL2	Understanding
4.	Show how is session tracking is achieved by the URL rewriting?	BTL2	Understanding
5.	Compare GET and POST request type.	BTL2	Understanding
6.	Write about servlet interface and its methods.	BTL2	Understanding
7.	Draw the Servlet life cycle.	BTL2	Understanding
8.	How is session tracking achieved by URL rewriting?	BTL2	Understanding
9.	What are the uses of cookies.	BTL1	Remembering
10.	Write about java scriplet.	BTL2	Understanding
11.	Express the purpose of URL rewriting.	BTL2	Understanding
12.	Define JSP.	BTL1	Remembering
13.	List any three advantages of java servlet over JSP.	BTL1	Remembering
14.	Rewrite the code segment to store current server time in session using Java Servlet API.	BTL2	Understanding

15.	Write the difference between JSP and servlet.	BTL2	Understanding
16.	Discuss about the interaction between a webserver and a servlet.	BTL2	Understanding
17.	List the types of directives in JSP.	BTL1	Remembering
18.	Write the methods that are central to the life cycle of the servlet.	BTL2	Understanding
19.	Distinguish between servlets and JSP.	BTL2	Understanding
20.	Discuss the need to use JSTL tags?	BTL2	Understanding
21.	Why do we need Servlet Filter?	BTL2	Understanding
22.	How JSP be called using a Servlet?	BTL2	Understanding
23.	How to get the server information in a servlet?	BTL2	Understanding
24.	Write a simple Servlet program to print the contents of HTML.	BTL2	Understanding

PART – B

1.	(i) Integrate how servlets work and its lifecycle. (ii) Explain and develop the Servlet API. (13)	BTL6	Creating
2.	Write a servlet to illustrate the principle of Cookies and explain. (16)	BTL4	Analyzing
3.	Demonstrate the Servlet architecture and explain its working principle. (16)	BTL2	Understanding
4.	Consider a database that has a table Employee with two columns Employee Id and Name. Assume that the administrator user id and password to access to access the database table are Scott and Tiger. Write a JDBC program that can query and print all entries in the table employee. Make the database using type 2 driver database. (16)	BTL5	Evaluating
5.	Describe in detail the session handling in server side programming. (16)	BTL1	Remembering
6.	(i) Discuss about JSTL. (8) (ii) Summarize a client server JSP program to find simple interest and display the result in client. (8)	BTL2	Understanding
7.	Explain the use of cookies for tracking for tracking requests with a program. (16)	BTL4	Analyzing
8.	(i) Explain about the standard actions in JSP. (8) (ii) Analyze MVC architecture of JSP. (8)	BTL4	Analyzing
9.	Explain in detail about a JSP code to access a table and records from a student database to obtain the result of a student. (16)	BTL1	Remembering
10.	Demonstrate the information in a JSP document in detail. (16)	BTL3	Applying
11.	(i) Discuss about the Servlet lifecycle. (8) (ii) List JSP advantages. (8)	BTL2	Understanding
12.	(i) Explain and write a simple JDBC program. (8) (ii) List various JSP scripting components. (8)	BTL1	Remembering
13.	Demonstrate with suitable example for core and formatting tags in JSTL. (16)	BTL3	Applying
14.	What is a JavaBeans component? How will you use the JSP language elements for accessing Beans in your JSP pages? (16)	BTL1	Remembering

15.	Compare the Get request and the Post request type in Servlets. (16)	BTL2	Understanding																
16.	Illustrate with suitable example for SQL and XML tags in JSTL. (16)	BTL3	Applying																
17.	Choose a JSP program to show a Sample Order Form. (16)	BTL5	Evaluating																
	<table border="1"> <thead> <tr> <th>Item</th> <th>Price</th> <th>Quantity</th> <th>Total Price</th> </tr> </thead> <tbody> <tr> <td>DVD</td> <td></td> <td></td> <td></td> </tr> <tr> <td>HDD</td> <td></td> <td></td> <td></td> </tr> <tr> <td>...</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			Item	Price	Quantity	Total Price	DVD				HDD				...			
	Item			Price	Quantity	Total Price													
	DVD																		
HDD																			
...																			

UNIT - IV: THE USER INTERFACE AND DESIGN PROCESS

Introduction-Importance of the user interface-characteristics of graphics and web user interface- The User Interface Design Process- Understanding How People Interact with Computers- Important Human Characteristics in Design- Human Considerations in the Design of Business Systems- Human Interaction Speeds

PART – A

Q.No	Questions	BT Level	Competence
1.	What is meant by user interface?	BTL1	Remembering
2.	List the characteristics of user interfaces.	BTL1	Remembering
3.	Recall the basic components of User Interface Design Process	BTL1	Remembering
4.	What is web user interface?	BTL1	Remembering
5.	Tell about GUI.	BTL1	Remembering
6.	What are benefits of a good design?	BTL1	Remembering
7.	Illustrate the Importance of the user interface.	BTL2	Understanding
8.	Outline the design process in GUI.	BTL2	Understanding
9.	Interpret web user interface.	BTL2	Understanding
10.	Write a short note on human interaction speeds.	BTL2	Understanding
11.	Show the Printed Pages versus Web Page.	BTL2	Understanding
12.	Write a note on providing the proper feedback .	BTL2	Understanding
13.	Write the five commandments to eliminate the pitfall in designing the interface.	BTL2	Understanding
14.	List the issues for choosing colors in interface design.	BTL2	Understanding
15.	List the various factors of user interface design that needs to be considered by human interaction designers.	BTL2	Understanding
16.	Define web navigation	BTL2	Understanding
17.	What is Pick and Click Interaction?	BTL1	Remembering
18.	Write the important human characteristics in user interface design.	BTL2	Understanding
19.	Write about text on web page	BTL2	Understanding
20.	What do you know about the advantage of GUI?	BTL1	Remembering
21.	Show what is User Assistance in Wed Interface Design	BTL2	Understanding
22.	Construct a multiple document interface scheme for window management.	BTL2	Understanding
23.	List the characteristics of GUI and web design.	BTL2	Understanding
24.	What is the need for human computer interface?	BTL2	Understanding

PART-B

1.	Briefly discuss about Outline various factors of user interface design that needs to be considered by human interaction designers.(16)	BTL1	Remembering
2.	How will you review the five commandments to eliminate the pitfall in designing the interface? (16)	BTL4	Analyzing
3.	Explain briefly in detail the important human characteristics in user interface design. (16)	BTL1	Remembering
4.	Write a detailed note on the following (i)device-based control (8) (ii) screen-based control (8)	BTL1	Remembering

5.	Summarize all kinds of graphical menus and explain in detail. (16)	BTL2	Understanding
6.	Demonstrate the user interface design. Explain the important benefits of a good design. Compare the characteristics of GUI versus web design. (16)	BTL2	Understanding
7.	Explain the direct and indirect methods for determining business requirements analysis on user interface design. in detail with example. (16)	BTL2	Understanding
8.	Discuss in detail GUI and web interface design. (16)	BTL3	Applying
9.	Give a detailed note on graphical system advantages and disadvantages. (16)	BTL1	Remembering
10.	Analyze in detail multiple document interface scheme for window management. (16)	BTL4	Analyzing
11.	Identify at least four guidelines to be followed in phrasing of menus during the development of menus and explain each type in detail. (16)	BTL3	Applying
12.	Discover the importance of human consideration in UI design with suitable example . (16)	BTL4	Analyzing
13.	Criticize in detail “Human are complex organisms with a variety of attributes that have an important influence on interface and screen design “. Explain. (16)	BTL5	Evaluating
14.	Generalize about need for collecting feedback and discuss how it improves the user interface design. (16)	BTL6	Creating
15.	Discuss in detail the guidelines to be followed for creating text for web pages. (16)	BTL2	Understanding
16.	Explain the steps to create the guidance and assistance mechanisms in interface design web application. (16)	BTL5	Evaluating
17.	Develop various accessibility issues you can have and give design for them. (16)	BTL3	Applying

UNIT - V: PRINCIPLES OF GOOD INTERFACE AND SCREEN DESIGN

Understand the Business Function- Understand the Principles of Good Interface and Screen Design- Develop System Menus and Navigation Schemes- Provide Effective Internationalization and Accessibility- Create Meaningful Graphics, Icons, and Images- Choose the Proper Colors- Organize and Layout Windows and Pages

1.	Define Information collection techniques.	BTL1	Remember
2.	Give the key aspects of business function.	BTL2	Understand
3.	Differentiate intranet and extranet design guidelines.	BTL2	Understand
4.	Write about the technological considerations in interface design.	BTL2	Understand
5.	Define menu functions on menu.	BTL1	Remember
6.	Discuss about the formatting of menus.	BTL2	Remember
7.	What is Web site Navigation?	BTL1	Remember
8.	What are the key roles played by Graphical menus?	BTL1	Remember
9.	Express the idea of selecting menu choices.	BTL2	Understand
10.	Define Window characteristics.	BTL1	Remember
11.	Write the components of Window.	BTL2	Understand
12.	List the different types of window.	BTL1	Remember
13.	List out the features of Screen based controls.	BTL2	Understand
14.	What is meant by requirements determination and testing?	BTL1	Remember
15.	What is meant by Icon design process?	BTL1	Remember
16.	How will you Create screen presentation in graphics?	BTL2	Understand
17.	Describe the features of layout screens.	BTL2	Understand
18.	Differentiate overlapping and cascading windows.	BTL2	Understand
19.	How would you create color,sequence and functionality?	BTL2	Understand
20.	Differentiate between drop down and pop up menu boxes.	BTL1	Remember
21.	Give a brief description of choosing proper colors.	BTL2	Understand
22.	Define Accessibility Design.	BTL1	Remember
23.	What is meant by web page design?	BTL2	Understand
24.	Give an example of screen design.	BTL2	Understand

PART – B

1.	Explain the Business Design and requirement Analysis.(16)	BTL5	Evaluate
2.	i) Discuss about basic business functions. (8) ii) Give the design standards and guidelines of business functions. (8)	BTL2	Understand
3.	Analyze in detail about Weblogs . (16)	BTL4	Analyze
4.	Summarize the structures of Menus. (16)	BTL2	Understand
5.	Explain Web metrics cycle.	BTL1	Remember
6.	(i) Illustrate the page tagging mechanism.(8) (ii) Examine click analytics . (8)	BTL3	Apply
7.	Demonstrate the formatting of Menu. (16)	BTL3	Apply
8.	Describe in detail about the Graphical Menus.(16)	BTL1	Remember
9.	Examine how to choose colors for optimal screen design.	BTL1	Remember
10.	Generalize the functions of (i) Graphical systems. (8) (ii) Web systems. (8)	BTL6	Create

11.	(i) Identify the principles of good web page design.(8) (ii) Describe about screen design with examples. (8)	BTL1	Remember
12.	Discuss in detail about Web site Navigation. (16)	BTL2	Understand
13.	Analyze the screen based controls in screen design. (16)	BTL4	Analyze
14.	Analyze the types of Windows in Screen design. (16)	BTL4	Analyze
15.	Explain in detail custom controls in screen design. (16)	BTL5	Evaluate
16.	Illustrate in detail about Icons,graphics,multimedia. (16)	BTL3	Apply
17.	Explain briefly about Provide Effective Internationalization and Accessibility . (16)	BTL6	Create

