SRM VALLIAMMAI ENGINEERING COLLEGE

SRM Nagar, Kattankulathur – 603 203

DEPARTMENT OF INFORMATION TECHNOLOGY

QUESTION BANK

IV SEMESTER

IT3463 WEB ESSENTIALS

Regulation – 2023

Academic Year 2024 – 2025 (Even semester)

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SUBJECT   : IT3463 WEB ESSENTIALS

SEM / YEAR : IV / II

UNIT I - WEBSITE BASICS		
Internet Overview – Fundamental computer network concepts – Web Protocols – URL – Domain Name- Web Browsers and Web Servers- Working principle of a Website –Creating a Website – Client-side and server-side scripting		
PART-A		
Q.No	**Question**	**BTL**	**Competence**
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1	What is a computer network?	BTL1	Remembering
2	Recall the difference between LAN and WAN.	BTL1	Remembering
3	Define the term 'protocol'.	BTL1	Remembering
4	State the role of a router in a network.	BTL1	Remembering
5	Recall the meaning of an IP address.	BTL1	Remembering
6	What is HTTP?	BTL1	Remembering
7	Contrast HTTPS and HTTP in terms of security.	BTL2	Understanding
8	Illustrate the role of FTP in web development with examples.	BTL2	Understanding
9	Explain the concept of DNS and how it resolves domain names.	BTL2	Understanding
10	Outline the purpose of SMTP in email communication.	BTL2	Understanding
11	Rephrase the definition of a URL in simple terms.	BTL2	Understanding
12	What are the components of a URL?	BTL1	Remembering
13	Define the concept of a domain name.	BTL1	Remembering
14	Recall the difference between a top-level domain and a second-level domain.	BTL1	Remembering
15	What is a web browser?	BTL1	Remembering
16	List and Compare some popular web browsers based on their features.	BTL2	Understanding
17	What is a web server?	BTL1	Remembering
18	Show how a website works by explaining its basic principles.	BTL2	Understanding
19	Outline the key functionalities of web hosting.	BTL1	Remembering
20	What is client-side scripting?	BTL1	Remembering
21	Name a popular client-side scripting language.	BTL1	Remembering
22	Infer server-side scripting and its purpose.	BTL2	Understanding
23	Name a popular server-side scripting language.	BTL1	Remembering
24	Differentiate between client-side and server-side scripting.	BTL1	Remembering

	PART-B			
1	Organize in detail about Internet and World Wide Web.	(16)	BTL3	Applying
2	Analyze the difference between LAN, WAN, and MAN with suitable example.	(16)	BTL4	Creating
3	Describe the TCP/IP model. Identify the layers and their primary functions?	(16)	BTL3	Analyzing
4	Examine the functionalities of web protocols.	(16)	BTL4	Analyzing
5	Discover the role of HTTP and HTTPS in web communication. How do they differ?	(16)	BTL4	Analyzing
6	Identify the working of domain name system in brief.	(16)	BTL3	Applying
7	(i) Inspect the types of domain in DNS. (ii) Analyze the use of relative URLs with an example.	(8) (8)	BTL4	Analyzing
8	Organize the difference between a web browser and a web server? How do they interact?	(16)	BTL3	Applying
9	Model the steps involved in accessing a website, starting from entering a URL in the browser's address bar to displaying the content on the screen.	(16)	BTL3	Applying
10	Experiment with the core technologies used in creating a website? Briefly explain their roles.	(16)	BTL3	Applying
11	Compare and contrast client-side and server-side scripting?	(16)	BTL4	Analyzing
12	Examine a brief explanation of the purpose of backups offered by web hosting providers when creating a website. Also describe the Incremental, Differential and Mirror backup methodologies with suitable architectural diagrams.	(16)	BTL 4	Analyzing
13	Analyze the purpose of Continuous Data Protection in web hosting along with its pros and cons.	(16)	BTL4	Analyzing
14	Categorize the basic network components and Write about the network components.	(16)	BTL4	Analyzing
15	Organize the different Network Topologies and apply them for appropriate scenarios with suitable diagram.	(16)	BTL3	Applying
16	Apply the concepts of IP addressing with suitable example.	(16)	BTL3	Applying
17	Examine (i) HTTP request message. (ii) HTTP response message.	(8) (8)	BTL4	Analyzing

UNIT II - WEB DESIGNING

HTML – Form Elements – Input types and Media elements – CSS3 – Selectors, Box Model, Backgrounds and Borders, Text Effects, Animations, Multiple Column Layout, User Interface.

PART-A

Q.No	Question	BTL	Competence
1	Identify the purpose of the <form> element and its key attributes.	BTL1	Remembering
2	List and describe five different input types supported by HTML forms.	BTL1	Remembering
3	Recall how to create a form with a text input, a password input, a submit button, and a reset button.	BTL1	Remembering
4	Differentiate between <input type="text"> and <textarea>.	BTL1	Remembering
5	Show how to create a form with a dropdown list of options.	BTL1	Remembering
6	Identify the HTML element used to embed an image in a web page and its key attributes.	BTL1	Remembering
7	Interpret the purpose of the alt attribute for an image.	BTL2	Understanding
8	Demonstrate how to embed an audio file in a web page.	BTL2	Understanding
9	Compare the <audio> and <video> elements in terms of functionality.	BTL2	Understanding
10	Illustrate the concept of CSS selectors and their role in styling web pages.	BTL2	Understanding
11	Describe the different types of CSS selectors with examples.	BTL1	Remembering
12	List the four main components of the CSS box model.	BTL1	Remembering
13	How can you set the margin, border, padding, and content area of an element?	BTL1	Remembering
14	Summarize how to set a background color and image for an element.	BTL2	Understanding
15	Show how to create a rounded border for an element.	BTL1	Remembering
16	Describe how to create a gradient background.	BTL1	Remembering
17	Infer how to use the text-align and text-indent properties to style text.	BTL2	Understanding
18	Show how to use the line-height property to adjust line spacing.	BTL2	Understanding
19	Outline the purpose of the @keyframes rule in CSS animations.	BTL2	Understanding
20	Identify the animation property and its key components.	BTL1	Remembering
21	Demonstrate how to create a multi-column layout using CSS.	BTL2	Understanding
22	Show how to make text flow across multiple columns.	BTL2	Understanding
23	How can you create a responsive design that adapts to different screen sizes?	BTL2	Understanding
24	What is the media query technique used for?	BTL2	Understanding

	PART-B			
1	(i) Analyze about the various ways users can input data on a webpage. (ii) Discover a HTML5 code snippet to tags embed video content directly into web pages.	(8) (8)	BTL4	Analyzing
2	Examine 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)	BTL4	Analyzing
3	Create a web page for displaying your profile using HTML and apply external style sheet for different HTML elements.	(16)	BTL6	Creating
4	Create a web page using HTML for a College event using backgrounds text effects and animations.	(16)	BTL6	Creating
5	Evaluate input validation techniques and how to implement them.	(16)	BTL5	Evaluating
6	Discover responsive design considerations for media elements.	(16)	BTL4	Analyzing
7	Categorize the different types of CSS selectors (e.g., element, class, ID, attribute, pseudo-class, pseudo-element). Provide examples of how to use each selector to style specific elements. Discuss the specificity of selectors and how it affects style inheritance.	(16)	BTL4	Analyzing
8	Explain text formatting properties like font-family, font-size, font-weight, font-style, text-decoration, text-align, text-transform, and line-height.	(16)	BTL5	Evaluating
9	Formulate how to create text effects like drop shadows, glows, and outlines.	(16)	BTL6	Creating
10	Analyze the components of the CSS box model (content, padding, border, margin).	(16)	BTL4	Analyzing
11	(i) Explain how to set background colors, images, and gradients. (ii) Assess the use of CSS3 border-image for complex border designs.	(8) (8)	BTL5	Evaluating
12	Inspect the animation property and its sub-properties.	(16)	BTL4	Analyzing
13	Organize how to create multi-column layouts for text and images.	(16)	BTL3	Applying
14	Select the principles of user interface design, including usability and accessibility.	(16)	BTL3	Applying
15	Dissect the use of CSS to create visually appealing and user-friendly interfaces.	(16)	BTL4	Analyzing
16	Evaluate different media query types and their syntax.	(16)	BTL5	Evaluating
17	Elaborate border styles, widths, colors, and rounded corners.	(16)	BTL6	Creating

UNIT III - CLIENT-SIDE PROCESSING AND SCRIPTING

JavaScript Introduction – Variables and Data Types-Statements – Operators – Literals-Functions Objects-Arrays-Built-in Objects- Regular Expression, Exceptions, Event handling, Validation – JavaScript Debuggers.

PART-A

Q.No	Question	BTL	Competence
1	What are the basic data types in JavaScript?	BTL1	Remembering
2	Differentiate between var, let, and const keywords.	BTL1	Remembering
3	Define what a JavaScript statement is and provide an example.	BTL1	Remembering
4	List the different types of operators in JavaScript.	BTL1	Remembering
5	Compare unary, binary, and ternary operators.	BTL1	Remembering
6	What are literals in JavaScript?	BTL1	Remembering
7	Provide examples of different types of literals.	BTL2	Understanding
8	Interpret the purpose of a function in JavaScript.	BTL2	Understanding
9	Contrast function declaration and function expression.	BTL2	Understanding
10	Describe what an object is in JavaScript.	BTL2	Understanding
11	How do you create an object in JavaScript?	BTL2	Understanding
12	What is an array in JavaScript?	BTL1	Remembering
13	Name two built-in objects in JavaScript.	BTL1	Remembering
14	Summarize some common methods of the Date object.	BTL2	Understanding
15	What is a regular expression?	BTL2	Understanding
16	Illustrate a simple regular expression with an example.	BTL2	Understanding
17	Interpret what an exception is in JavaScript.	BTL2	Understanding
18	What is an event in JavaScript?	BTL1	Remembering
19	Give an example of an event handler.	BTL2	Understanding
20	List the different methods defined in document and window objectof JavaScript.	BTL2	Understanding
21	How can you validate user input in a form using JavaScript?	BTL1	Remembering
22	What is a JavaScript debugger?	BTL1	Remembering
23	Name a popular JavaScript debugging tool.	BTL2	Understanding
24	Write the JavaScript to print "Good Day" using IF-ELSE condition.	BTL1	Remembering

	PART-B			
1	Analyze looping statements supported in Java Script with examples.	(16)	BTL4	Analyzing
2	Explain the types of statement in JavaScript with example.	(16)	BTL5	Evaluating
3	Assess how to write conditional statements (if-else, switch-case).	(16)	BTL4	Analyzing
4	Identify the use of loops (for, while, do-while).	(16)	BTL3	Applying
5	Inspect the different types of operators in JavaScript	(16)	BTL4	Analyzing
6	Analyze operator precedence and associativity.	(16)	BTL4	Analyzing
7	(i) Assess different types of literals (numeric, string, boolean, object, array). (ii) Appraise how to use literals in JavaScript expressions and assignments.	(16)	BTL5	Evaluating
8	Experiment with how local and global function can be written using JavaScript.	(16)	BTL3	Applying
9	Discover the way in which JavaScript handles arrays with example.	(16)	BTL4	Analyzing
10	Examine commonly used built-in objects (Math, Date, String, Number, Boolean, Array).	(16)	BTL4	Analyzing
11	Design a Java Script program that demonstrates the uses of regular expression by creating a simple HTML page with a textarea (T) where the end-user can input text. When the use clicks the "Highlight Words" button, it should highlight the specific words (defined in an array) using regular expressions.	(16)	BTL6	Creating
12	Create a Java script that validates the password in a login form. Use regular expression to check whether the password contains at least 8 characters, one number, special character and upper case letter.	(16)	BTL6	Creating
13	What are exceptions? Assess How exceptions are handled in Java Script?	(16)	BTL5	Evaluating
14	(i) Explain about the event handling in JavaScript. List down the various types of events that are supported by JavaScript. (ii) Describe how events in JavaScript move through the DOM tree in two distinct stages.	(16)	BTL5	Evaluating
15	Discover the use of event bubbling and event capturing.	(16)	BTL4	Analyzing
16	Model how to use JavaScript to validate form input.	(16)	BTL3	Applying
17	(i) Explain the concept of debugging. (ii) Explain the use of console.log() for debugging.	(16)	BTL5	Evaluating

	UNIT IV - SERVER SIDE PROCESSING AND SCRIPTING		
PHP – Working principle of PHP – PHP Variables – Constants – Operators – Flow Control and Looping – Arrays – Strings – Functions – File Handling – File Uploading – Email Basics – Email with attachments – PHP and HTML – Simple PHP scripts – Databases with PHP.		
	PART-A		
Q.No	**Question**	**BTL**	**Competence**
1	Define client side scripting.	BTL1	Remembering
2	Outline echo and print.	BTL1	Remembering
3	What is PHP? Give a suitable example	BTL1	Remembering
4	What is a Scripting Language?	BTL1	Remembering
5	List the common usage of PHP.	BTL1	Remembering
6	Label the working principle of PHP.	BTL1	Remembering
7	Infer associative array in PHP.	BTL2	Understanding
8	What did you mean by PHP variables?	BTL2	Understanding
9	Define server side scripting.	BTL2	Understanding
10	Classify types of scripting languages.	BTL2	Understanding
11	Write the structure of PHP.	BTL1	Remembering
12	How will you delete cookies in PHP?	BTL1	Remembering
13	Why do you move to script writing method in web programming?	BTL1	Remembering
14	Differentiate Constant and Variable in PHP.	BTL2	Understanding
15	State the difference between "Insert", "Update" and "Modify" events?	BTL1	Remembering
16	State the difference between Java script and VB script.	BTL1	Remembering

17	Relate the following Code and give the output
	``php
	<?php
	$x=5:
	$y=10:
	Function myTest()
	{
	 Global $x,$y;
	 $y=$x**$y;
	  $x=300
	}
	myTest(); echo $y.",",$x;
	?>
	``
		BTL2	Understanding

18	Relate the following Code and give the output
	``html
	<html>
	<head>
	<title>Checkboxes</title>
	<?PHP
	``		

| | ```php
$ch1='unchecked'; If(isset($_POST['Submit']))
{
  If(isset($_POST['ch1']))
  {
   $ch1=$_POST['ch1']; If($ch1=='net1')
    {
     $ch1='checked';
    }
  }
}
?>
    </head>
``` | BTL2 | Understanding |
19	How to write and execute PHP document?	BTL2	Understanding
20	Give the suitable example for basic syntax of PHP.	BTL1	Remembering
21	Mention the advantages of scripting languages.	BTL2	Understanding
22	Differentiate between server side and client side scripting.	BTL2	Understanding
23	Write down the data types used in PHP?	BTL2	Understanding
24	What is Associated Array in PHP?	BTL2	Understanding

	PART-B			
1	Design a simple HTML form and accept the user name and display the name through PHP echo statement.	(16)	BTL5	Evaluating
2	Examine the following: (i) Scope of the variables. (ii) Parameters. (iii) Function dealing with array.	(5) (5) (6)	BTL4	Analyzing
3	(i) Why we move to scripting languages. (ii) List the types of scripting languages and explain it.	(8) (8)	BTL3	Applying
4	(i) List and explain the data types of PHP. (ii) Describe about Arithmetic operators and its operations.	(8) (8)	BTL3	Applying
5	Discuss the various operators used in PHP with an example.	(16)	BTL3	Applying
6	Explain the various functions methods in PHP with an example.	(16)	BTL4	Analyzing
7	Explain about Cookies about the following a) Create. b) Delete. c) Retrive. d) Setting. e) Access.	(4) (4) (3) (3) (2)	BTL4	Analyzing
8	Create a form containing information Sl.No,title of the book, publishers, quantity, price,read the data from the form and display it using PHP Script.	(16)	BTL3	Applying

9	(i) Write and inspect the PHP script to display Fibonacci of length 10.	(8)	BTL3	Applying
	(ii) Write and inspect PHP script to compute the sum of positive integer up to 30 using do – while statement.	(8)		
10	(i) Write PHP program to greatest among three numbers.	(5)	BTL3	Applying
	(ii) Write a PHP script to compute sum and average of N numbers.	(5)		
	(iii) Write PHP programs to print whether current year is leap year or not.	(6)		
11	(i) Examine the PHP script to compute factorial of 'n' using while or for loop construct.	(8)	BTL4	Analyzing
	(ii) Write a PHP program to read a text file line by line and display it on screen.	(8)		
12	Analyze the File handling methods and explain with example.	(16)	BTL4	Analyzing
13	Evaluate how we use cookies and also show usage of PHP to solve by checking the image extension before uploading a image.	(16)	BTL5	Evaluating
14	Construct a PHP script to compute the Square root, Square, Cube and Quad of 10 numbers.	(16)	BTL6	Creating
15	(i) Write PHP Program to print whether given number is odd or even.	(8)	BTL5	Evaluating
	(ii) Discuss the various modes of operation in file handling.	(8)		
16	Explain the various control and looping statements in PHP with examples.	(16)	BTL3	Applying
17	Summarize in brief about arrays in PHP with suitable examples.	(16)	BTL4	Analyzing

UNIT V - SERVLETS AND DATABASE CONNECTIVITY
Servlets: Java Servlet Architecture – Servlet Life cycle- Form GET and POST actions -Sessions – Cookies – Database connectivity – JDBC Creation of simple interactive applications – Simple database applications.
PART-A

Q.No	Question	BTL	Competence
1	What are servlets?	BTL1	Remembering
2	List the application of servlets.	BTL1	Remembering
3	Summarize the advantages and disadvantages of servlets.	BTL1	Remembering
4	Show how is session tracking is achieved by the URL rewriting?	BTL1	Remembering
5	Compare GET and POST request type.	BTL1	Remembering
6	Summarize the servlet interface and its methods.	BTL1	Remembering
7	Sketch the Servlet life cycle.	BTL2	Understanding
8	How is session tracking achieved by URL rewriting?	BTL2	Understanding

9	Quote the uses of cookies.	BTL2	Understanding
10	Express the purpose of URL rewriting.	BTL2	Understanding
11	Why do we need Servlet Filter?	BTL1	Remembering
12	How to get the server information in a servlet?	BTL1	Remembering
13	Write a simple Servlet program to print the contents of HTML.	BTL2	Understanding
14	Formulate the three methods that are central to the life cycle of the servlet.	BTL1	Remembering
15	Do cookies have the capability to store login credentials? Consider security implications in your response.	BTL2	Understanding
16	How dynamic content generation can be accomplished using servlets?	BTL2	Understanding
17	State the purpose of JDBC.	BTL1	Remembering
18	List the steps involved in establishing a database connection using JDBC.	BTL1	Remembering
19	What is a JDBC driver? Name the different types of JDBC drivers.	BTL2	Understanding
20	What is a database-driven application?	BTL1	Remembering
21	How do you ensure data consistency in a database-driven application?	BTL2	Understanding
22	What is the role of prepared statements in JDBC?	BTL2	Understanding
23	How do you handle user input and error handling in a database application?	BTL2	Understanding
24	What is the difference between a static and a dynamic web page?	BTL1	Remembering

PART-B			
1	(i)　　Integrate how servlets work and its lifecycle.　(8) (ii)　　Identify and develop the Servlet API.　(8)		BTL3	Applying
2	Model a servlet to illustrate the principle of Cookies and explain.	(16)	BTL3	Applying
3	Analyze the Servlet architecture and explain its working principle.	(16)	BTL4	Analyzing
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)	BTL3	Applying
5	Explain in detail the session handling in server side programming.	(16)	BTL5	Evaluating
6	Explain the use of cookies for tracking for tracking requests with a program.	(16)	BTL5	Evaluating
7	Design a Servlet program to display the waiting list status, given thePNR number of a train. Create a JSP to display the information at the client end.	(16)	BTL6	Creating
8	Formulate a Java Servlet to display net salary of employee, use JDBCconnectivity to get employee details from database.	(16)	BTL6	Creating

9	Explain the ways of storing and accessing information using cookiesand handling associated issues.	(16)	BTL5	Evaluating
10	Give a sample Java servlet program that demonstrates handling form submissions using both GET and POST methods.	(16)	BTL3	Applying
11	Examine the steps involved in developing a dynamic website.	(16)	BTL4	Analyzing
12	Explain the way of accessing database with JDBC with an example.	(16)	BTL5	Evaluating
13	(i) Explain the steps for using JDBC to access a database. (ii) Write a Java program to access the details of patients stored in a file. Display the contents of the records of the patient based on treatment on the screen.	(8) (8)	BTL5	Evaluating
14	How can you run servlet with database connectivity? Examine with suitable example.	(16)	BTL4	Analyzing
15	Inspect JDBC with employee salary processing system as example.	(16)	BTL4	Analyzing
16	Write a Java program that queries for student information from a database. The program must also facilitates insertion, deletion and updation of student details into the database.	(16)	BTL6	Creating
17	(i) Analyze what is batch processing and how to perform batch processing in JDBC? (ii) Write a short note on catching database result.	(10) (6)	BTL4	Analyzing

Prepared by   **Verified by**   **HOD**