

# Examination Paper Analysis

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Topic No.	Name of Topic	Summer-23		Winter-22		Summer-22	
		Question	Marks	Question	Marks	Question	Marks
1	<b>Basics of JavaScript Programming</b>	1.(a)	2	1.(a)	2	1.(a)	2
		1.(b)	2	1.(b)	2	1.(c)	2
		1.(c)	2	1.(c)	2	2.(a)	4
		2.(a)	4	1.(e)	2	4.(a)	4
		2.(b)	4			5.(a)	6
		2.(c)	4				
		<b>Total</b>	<b>18</b>		<b>8</b>		<b>18</b>
2	<b>Array, Function and String</b>	1.(d)	2	1.(d)	2	2.(b)	4
		1.(e)	2	2.(a)	4	4.(b)	4
		2.(d)	4	2.(b)	4	5.(b)	6
		3.(a)	4	2.(c)	4	6.(c)	6
		3.(b)	4	2.(d)	4		
		3.(c)	4	3.(a)	4		
				3.(b)	4		
				3.(c)	4		
		<b>Total</b>	<b>20</b>		<b>30</b>		<b>20</b>
3	<b>Form and Event Handling</b>	1.(f)	2	1.(f)	2	1.(d)	2
		5.(a)	6	5.(a)	6	1.(e)	2
		5.(b)	6	6.(a)	6	2.(c)	4
		6.(a)	6			3.(c)	4
		<b>Total</b>	<b>20</b>		<b>14</b>		<b>14</b>
4	<b>Cookies and Browser Data</b>			1.(g)	2	1.(b)	2
				4.(c)	4	1.(e)	2
				5.(a)	6	1.(g)	2
		3.(d)	4	5.(b)	6	2.(d)	4
						3.(a)	4
						6.(a)	6

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		Total	4		18		20
5	<b>Regular Expression, Rollover and Frames</b>	4.(d)	4	3.(d)	4	3.(d)	4
		5.(c)	6	4.(a)	4	4.(c)	4
		6.(b)	6	4.(d)	4	4.(d)	4
6	<b>Menus,navigation and web page protection</b>	5.(c)		6		6.(b)	6
		<b>Total</b>	<b>16</b>		<b>18</b>		<b>18</b>
6	<b>Menus,navigation and web page protection</b>	4.(b)	4	4.(b)	4	1.(f)	2
		4.(c)	4	4.(e)	4	3.(b)	4
6	<b>Menus,navigation and web page protection</b>	4.(e)	4	6.(b)	6	4.(e)	4
		6.(c)	6	6.(c)	6	5.(c)	6
		<b>Total</b>	<b>18</b>		<b>20</b>		<b>16</b>

Exam Year	Unit No and Name	Question no as per MSBTE paper	Marks
Summer -2023	<b>Unit 1 Basics of JavaScript Programming</b>	<p>1.(a) State the ways to display the output in JavaScript</p> <p>1.(b) List the logical operators in JavaScript with description</p> <p>1.(c) Write JavaScript to create object “student”with properties roll number ,name,branch,year,Delete branch property and display remaining properties of student object.</p> <p>2.(a) Explain getter and setter properties in JavaScript with suitable example.</p> <p>2.(b) Explain Object creation in JavaScript using ‘new’ keyword with adding properties and methods with example</p> <p>2.(c) Write a JavaScript for loop that will iterate from 1 to 15. For each iteration it will check if the current number is odd or even and display a message to the screen</p> <p>Sample Output:</p> <p>“1 is odd”</p> <p>“2 is even”</p> <p>.....</p> <p>.....</p>	<p>2</p> <p>2</p> <p>2</p> <p>4</p> <p>4</p> <p>4</p>
Winter - 2022	<b>Unit 1 Basics of JavaScript Programming</b>	<p>1.(a) State the use of method in JavaScript with the help of suitable example.</p> <p>1.(b) List &amp; explain datatypes in JavaScript</p> <p>1.(c) Write a simple calculator program using switch case in JavaScript.</p>	<p>2</p> <p>2</p> <p>2</p>

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		1.(e) Describe property Getters & Setter.	2
<b>Summer -2022</b>	<b>Unit 1 Basics of JavaScript Programming</b>	1.(a) State the features of JavaScript. 1.(c) Write a JavaScript program to check whether entered number is prime or not. 2.(a) Write a JavaScript program to validate user accounts for multiple set of user ID and password (using switch case statement). 4.(a) Differentiate between For-loop and For-in loop. 5.(a) Write a JavaScript to checks whether a passed string is palindrome or not.	2 2 4 4 4
<b>Summer -2023</b>	<b>Unit 2 Array, Function and String</b>	1.(d) Write JavaScript that initializes an array called Colors with the names of 3 Colors and display array elements. 1.(e) Explain calling a function with arguments in JavaScript with example. 2.(d) Write the use of charCodeAt() and fromCharCode() method with syntax and example 3.(a) Differentiate between push() and join() method of array object with respect to use,syntax,return value and example. 3.(b) Write a Javascript code to perform following operation on string (Use split() method) Input string : Sudha Narayana Murthy" Display output as First Name:Sudha Middle Name: Narayana Last Name: Murthy 3.(c) Explain splice() method of array object with syntax and example.	2 2 4 4 4
<b>Winter - 2022</b>	<b>Unit 2 Array, Function and String</b>	1.(d) Write a program using sort method of array object. 2.(a) Write a JavaScript program that will display current date in DD/MM/YYYY format. 2.(b) Write a JavaScript program that will remove the duplicate element from an Array. (c) Write a JavaScript program that will display list of student in ascending order according to the marks & calculate the average performance of the class.	2 4 4 4

## Examination Paper Analysis

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		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; padding: 2px;">Student Name</th><th style="text-align: center; padding: 2px;">Marks</th></tr> </thead> <tbody> <tr> <td style="text-align: center; padding: 2px;">Amit</td><td style="text-align: center; padding: 2px;">70</td></tr> <tr> <td style="text-align: center; padding: 2px;">Sumit</td><td style="text-align: center; padding: 2px;">78</td></tr> <tr> <td style="text-align: center; padding: 2px;">Abhishek</td><td style="text-align: center; padding: 2px;">71</td></tr> </tbody> </table>	Student Name	Marks	Amit	70	Sumit	78	Abhishek	71	4
Student Name	Marks										
Amit	70										
Sumit	78										
Abhishek	71										
4											
4											
4											
2.(d) Write and explain a string functions for converting string to number and number to string.	3.(a) Differentiate between concat( ) & join( ) methods of array object.	3.(b) Write a JavaScript function to check the first character of a string is uppercase or not.	3.(c) Write a JavaScript function to merge two array & removes all duplicate values.								
<b>Summer -2022</b>	<b>Unit 2 Array, Function and String</b>	2.(b) Differentiate between concat() and join() methods of array object. 4.(b) Write a javascript function that accepts a string as a parameter and find the length of the string. 5.(b) Develop javascript to convert the given character to unicode and vice-versa. 6.(c) Write a javascript function to generate Fibonacci series till user defined limit.	4 4 6								
<b>Summer -2023</b>	<b>Unit 3 Form and Event Handling</b>	1.(f) Enlist any four mouse events with their use. 5.(a) Write HTML code to design a form that display two textboxes for accepting two numbers,one textbox for accepting result and two buttons as ADDITION and SUBTRACTION.Write proper JavaScript such that when the user clicks on any one of the button,respective operation will be performed on two numbers and result will be displayed in result textbox. 5.(b) Write HTML code to design a form that displays two buttons START and STOP.Write a JavaScript code such that when user clicks on START button, real time digital clock will be displayed on screen. When user clicks on STOP button,clock will stop displaying time(Use Timer Methods) 6.(a) Explain how to evaluate Radiobutton in JavaScript with suitable example.	2 6 6 6								
<b>Winter-2022</b>	<b>Unit 3 Form and Event</b>	1.(f) Enlist & explain the use of any two Intrinsic JavaScript functions. 5.(a) Write HTML script that will display following structure	2 6								

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	<b>Handling</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;"><b>Name</b></td><td style="padding: 5px;"><input type="text"/></td></tr> <tr> <td style="padding: 5px;"><b>Email</b></td><td style="padding: 5px;"><input type="text"/></td></tr> <tr> <td style="padding: 5px;"><b>Pin Code</b></td><td style="padding: 5px;"><input type="text"/></td></tr> <tr> <td style="padding: 5px;"></td><td style="padding: 5px; text-align: center;"><b>Submit</b></td></tr> </table> <p>Write the JavaScript code for below operations :</p> <ol style="list-style-type: none"> <li>(1) Name, Email &amp; Pin Code should not be blank.</li> <li>(2) Pin Code must contain 6 digits &amp; it should not accept any characters.</li> </ol> <p>6.(a) Write HTML script that will display dropdown list containing options such as Red, Green, Blue &amp; Yellow. Write a JavaScript program such that when the user selects any options. It will change the background colour of webpage.</p>	<b>Name</b>	<input type="text"/>	<b>Email</b>	<input type="text"/>	<b>Pin Code</b>	<input type="text"/>		<b>Submit</b>	6
<b>Name</b>	<input type="text"/>										
<b>Email</b>	<input type="text"/>										
<b>Pin Code</b>	<input type="text"/>										
	<b>Submit</b>										
Summer -2022	<b>Unit 3 Form and Event Handling</b>	<p>1.(d) Explain following form events :</p> <ul style="list-style-type: none"> <li>(i) onmouseup</li> <li>(ii) onblur</li> </ul> <p>1.(e) Write a javascript program to changing the contents of a window.</p> <p>2.(c) Write a javascript program to demonstrate java intrinsic function.</p> <p>3.(c) Write a javascript program to calculate add, sub, multiplication and division of two number (input from user). Form should contain two text boxes to input numbers of four buttons for addition, subtraction, multiplication and division.</p>	2  2  4  4								
Summer -2023	<b>Unit 4</b>	Q3 d. Explain how to create and read Persistent Cookies in JavaScript with example.	4								
Winter- 2022	<b>Unit 4</b>	<p>Q1 g. Describe browser location object.</p> <p>Q5 a. Write HTML script that will display following structure</p>	2  6  6								

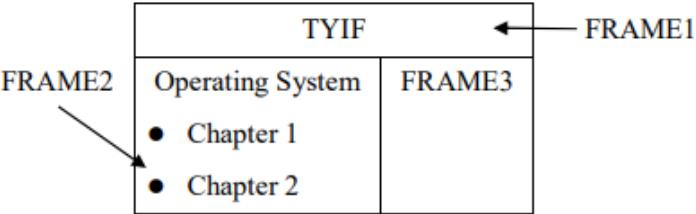
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		<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>Name</td><td><input type="text"/></td></tr> <tr> <td>Email</td><td><input type="text"/></td></tr> <tr> <td>Pin Code</td><td><input type="text"/></td></tr> <tr> <td></td><td><input type="button" value="Submit"/></td></tr> </table> <p>Write the JavaScript code for below operations : (1) Name, Email &amp; Pin Code should not be blank. (2) Pin Code must contain 6 digits &amp; it should not accept any characters.</p> <p>Q5 b. Write a webpage that displays a form that contains an input for username &amp; password. User is prompted to enter the input &amp; password &amp; password becomes the value of the cookie. Write a JavaScript function for storing the cookie. It gets executed when the password changes.</p>	Name	<input type="text"/>	Email	<input type="text"/>	Pin Code	<input type="text"/>		<input type="button" value="Submit"/>	
Name	<input type="text"/>										
Email	<input type="text"/>										
Pin Code	<input type="text"/>										
	<input type="button" value="Submit"/>										
<b>Summer -2022</b>	<b>Unit 4</b>	<p>Q1 b. Differentiate between session cookies and persistent cookies.</p> <p>Q1 e. Write a JavaScript program to change the contents of a window.</p> <p>Q1 g. Write a JavaScript syntax to access elements of another child window.</p> <p>Q2 d. Design a webpage that displays a form that contains an input for user name and password. User is prompted to enter the input user name and password and password become value of the cookies. Write the JavaScript function for storing the cookies.</p> <p>Q3 a. Write a JavaScript program to create read, update and delete cookies.</p> <p>Q6 a. Write a JavaScript to open a new window and the new window is having two frames. One frame containing button as "click here !", and after clicking this button an image should open in the second frame of that child window.</p>	2 2 2 4 4 6								
<b>Summer -2023</b>	<b>Unit 5</b>	<p>Q4 d. Explain text and image rollover with suitable example.</p> <p>Q5 c. Write HTML code to design a form that displays textboxes for accepting UserID and Aadhar No. and a SUBMIT button. UserID should contain 10 alphanumeric characters and must start with Capital Letter. Aadhar No. should contain 12 digits in the format nnnn nnnn nnnn. Write JavaScript code to validate the UserID and Aadhar No. when the user clicks on SUBMIT button.</p> <p>Q6 b. Write a script for creating following frame structure : Frame 1 contains three buttons SPORT, MUSIC and DANCE that will perform following action : When user clicks SPORT button, sport.html webpage will appear in Frame 2. When user clicks MUSIC button, music.html webpage will appear in Frame 3. When user clicks DANCE button, dance.html webpage will appear in Frame 4.</p>	2 6 6								

## Examination Paper Analysis

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		<table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <td></td><td>FRAME 1</td><td></td></tr> <tr> <td><b>SPORT</b></td><td><b>MUSIC</b></td><td><b>DANCE</b></td></tr> <tr> <td>FRAME 2</td><td>FRAME 3</td><td>FRAME 4</td></tr> </table>		FRAME 1		<b>SPORT</b>	<b>MUSIC</b>	<b>DANCE</b>	FRAME 2	FRAME 3	FRAME 4	
	FRAME 1											
<b>SPORT</b>	<b>MUSIC</b>	<b>DANCE</b>										
FRAME 2	FRAME 3	FRAME 4										
<b>Winter-2022</b>	<b>Unit 5</b>	<p>Q3 d. Write a JavaScript function that will open new window when the user will clicks on the button.</p> <p>Q4 a. Describe text Rollover with the help of example.</p> <p>Q4 c. Describe Quantifiers with the help of example.</p> <p>Q4 d. Describe frameworks of JavaScript &amp; its application.</p> <p>Q5 c. Write a JavaScript for creating following frame structure :</p>  <p>Chapter 1 &amp; Chapter 2 are linked to the webpage Ch1 HTML &amp; Ch2.html respectively. When user click on these links corresponding data appears in FRAME3.</p>	4 4 4 4 6									
<b>Summer -2022</b>	<b>Unit 5</b>	<p>Q3 d. State what is regular expression. Explain its meaning with the help of a suitable example.</p> <p>Q4 c. Write a JavaScript program to validate email ID of the user using regular expression.</p> <p>Q4 d. Write a JavaScript program to design HTML page with books information in tabular format, use rollovers to display the discount information.</p> <p>Q6 b. Write a JavaScript to create option list containing list of images and then display images in new window as per selection.</p>	4 4 4 6									
<b>Summer -2023</b>	<b>Unit 6</b>	<p>Q4 b. List Ways of protecting your web page and describe any one of them.</p> <p>Q4 c. Explain how to create and display Rotating Banner in JavaScript with example.</p> <p>Q4 e. What is Status bar and how to display moving message on the status line of a window using JavaScript.</p> <p>Q6 c. Write a JavaScript to create a pull - down menu with four options [AICTE, DTE, MSBTE, GOOGLE]. Once the user will select one of the options then user will be redirected to that site.</p>	4 4 4 6									
<b>Winter-2022</b>	<b>Unit 6</b>	<p>Q4 b. Write a JavaScript program that will create pull-down menu with three options. Once the user will select the one of the options then user will redirected to that website.</p>	4 4									

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		Q4 e. Describe how to link banner advertisement to URL with example. Q6 b. Develop a JavaScript program to create Rotating Banner Ads. Q6 c. Write a JavaScript for the folding tree menu.	6 6
<b>Summer -2022</b>	<b>Unit 6</b>	Q1 f. Explain frame works of JavaScript and its application. Q3 b. Write a JavaScript program to link banner advertisements to different URLs. Q4 e. List ways of protecting your webpage and describe any one of them. Q5 c. Write a JavaScript program to create a slide show with the group of six images, also simulate the next and previous transition between slides in your JavaScript.	2 4 6 6

Exam	Unit No	Question no as per MSBTE paper	Marks
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# Examination Paper Analysis

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Year and Name															
Summer -2023	Unit 1 <b>Basics of JavaScript Programmin g</b>	<p><b>1.(a) State the ways to display the output in JavaScript</b></p> <p>Ans:</p> <ul style="list-style-type: none"><li>• Writing into an HTML element, using innerHTML.</li><li>• Writing into the HTML output using document.write().</li><li>• Writing into an alert box, using window.alert().</li><li>• Writing into the browser console, using console.log().</li></ul>	<b>2M</b> <b>one way for ½ mark</b>												
		<p><b>1.(b) List the logical operators in JavaScript with description</b></p> <p>Ans:</p> <table border="1"><thead><tr><th>Operator</th><th>Description</th><th>Example</th></tr></thead><tbody><tr><td>&amp;&amp;</td><td>and</td><td>(x &lt; 10 &amp;&amp; y &gt; 1) is true</td></tr><tr><td>  </td><td>or</td><td>(x == 5    y == 5) is false</td></tr><tr><td>!</td><td>not</td><td>!(x == y) is true</td></tr></tbody></table>	Operator	Description	Example	&&	and	(x < 10 && y > 1) is true		or	(x == 5    y == 5) is false	!	not	!(x == y) is true	<b>2M</b> <b>Any two operat or 1 mark for each operat or</b>
Operator	Description	Example													
&&	and	(x < 10 && y > 1) is true													
	or	(x == 5    y == 5) is false													
!	not	!(x == y) is true													

## Examination Paper Analysis

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	<p><b>1.(c) Write JavaScript to create object “student”with properties roll number ,name,branch,year,Delete branch property and display remaining properties of student object.</b></p> <p>Ans:</p> <pre>&lt;script&gt; var student ={  roll_number:1001 branch:"IF" year:First name:"XYZ" document.write(student.roll_number+" "+student.branch+" " student.year+" "+student.name); delete student.branch; document.write(student.roll_number+" "+student.branch+" " student.year+" "+student.name); &lt;/script&gt;</pre>	<b>2M</b>  <b>Proper correct logic program 2 marks</b>
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## Examination Paper Analysis

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	<p><b>2.(a) Explain getter and setter properties in JavaScript with suitable example.</b></p> <p><b>Ans:</b></p> <p>JavaScript object accessors are used to access and update the objects. Getter and setter are used as object accessors to get or set object properties.</p> <p>Getter method helps in accessing the object methods as object properties.</p> <p>Setter method is used to set object properties.</p> <p>Using getter and setter the javascript provides better data security and data quality.</p> <p>Example:</p> <pre>&lt;!DOCTYPE html&gt; &lt;html&gt; &lt;body&gt; &lt;script&gt; var car = { brand: "Toyota", color: "Blue", get getBrand () { return this.brand; }, get getColor () { return this.color; }, set setBrand (newBrand) { this.brand = newBrand; }, set setColor (newColor) { this.color = newColor; } }; document.write("Car Brand: " + car.brand + "&lt;br&gt;Car Color: " + car.color); car.setBrand = "Tesla"; car.setColor = "Red"; document.write("&lt;br&gt;&lt;br&gt;Car Brand: " + car.brand + "&lt;br&gt;Car Color: " + car.color); &lt;/script&gt; &lt;/body&gt; &lt;/html&gt;</pre>	<b>4M</b>
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## Examination Paper Analysis

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	<p>2.(b) Explain Object creation in JavaScript using 'new' keyword with adding properties and methods with example</p> <p>Ans:</p> <p>A javascript object is an entity having state and behavior.</p> <p>JavaScript is an object based language.</p> <p>There are three ways to create object:</p> <ul style="list-style-type: none"><li>1) By Object Literal</li><li>2) By creating instance of object directly</li><li>3) By using an object constructor</li></ul> <p>Example:</p> <pre>&lt;script&gt; var emp =new Object(); emp.id=101; emp.name=""Yash Desai" emp.salary=50000; document.write(emp.id+ " "+emp.name+" "+emp.salary"); &lt;/script&gt;</pre>	<b>4M</b> <b>Object creation 2 mark adding property and method 2 mark</b>
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	<p><b>2.(c)</b> Write a JavaScript for loop that will iterate from 1 to 15. For each iteration it will check if the current number is odd or even and display a message to the screen</p> <p><b>Sample Output:</b></p> <p>“1 is odd” “2 is even” ..... .....</p> <p><b>Ans:</b></p> <pre>&lt;script&gt; for(var i=1; i&lt;=15; i++) { if(i%2) { document.write(i+"is even"); } else { document.write(i+"is odd"); } } &lt;/script&gt;</pre>	<b>4M</b> <b>Correct logic program 4 marks</b>
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## Examination Paper Analysis

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Winter - 2022	Unit 1 <b>Basics of JavaScript Programming</b>	<p><b>1.(a) State the use of method in JavaScript with the help of suitable example.</b></p> <p><b>Ans:</b></p> <p>A method/function is a set of statements that take inputs, do some specific computation, and produce output. The idea is to put some commonly or repeatedly done tasks together and make a function so that instead of writing the same code again and again for different inputs, we can call that function.</p> <p>Example:</p> <pre>function Addition (number1, number2) { return number1 + number2; }</pre>	<b>2 M</b> <b>Explanation 1 M and example 1 M</b>
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## Examination Paper Analysis

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	<p><b>1.(b) List &amp; explain datatypes in JavaScript</b></p> <p><b>Ans:</b></p> <p>JavaScript provides different data types to hold different types of values. There are two types of data types in JavaScript, Primitive data type and Non-primitive data type</p> <p>i) There are five types of primitive data types in JavaScript. They are as follows: String - represents sequence of characters e.g., "hello" Number - represents numeric values e.g., 100 Boolean - represents boolean value either false or true Undefined - represents undefined value Null - represents null i.e., no value at all</p> <p>ii) The non-primitive data types are as follows: Object - represents instance through which we can access members Array - represents group of similar values RegExp - represents regular expression</p>	<b>2 M</b>  <b>Listing 1 M and explanation 1 M</b>
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## Examination Paper Analysis

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	<p><b>1.(c) Write a simple calculator program using switch case in JavaScript.</b></p> <p><b>Ans:</b></p> <pre>&lt;html&gt; &lt;body&gt; &lt;script&gt; const number1 = parseFloat(prompt("Enter first number: ")); const number2 = parseFloat(prompt("Enter second number: ")); const operator = prompt("Enter operator ( either +, -, *, / or %): "); let result; switch (operator) {   case "+":     result = number1 + number2;     document.write(result);     break;   case "-":     result = number1 - number2;     document.write(result);     break;   case "*":     result = number1 * number2;     document.write(result);     break;   case "/":     result = number1 / number2;     document.write(result);     break;   case "%":     result = number1 % number2;     document.write(result);     break;   default:     document.write("Invalid operator");     break; } &lt;/script&gt; &lt;/body&gt; &lt;/html&gt;</pre>	2 M Any correct logic program 2 marks
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## Examination Paper Analysis

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	<p><b>1.(e) Describe property Getters &amp; Setter.</b></p> <p><b>Ans:</b></p> <p>JavaScript object accessors are used to access and update the objects. Getter and setter are used as object accessors to get or set object properties.</p> <p>Getter method helps in accessing the object methods as object properties.</p> <p>Setter method is used to set object properties.</p> <p>Using getter and setter the javascript provides better data security and data quality.</p> <p>Example:</p> <pre>&lt;!DOCTYPE html&gt; &lt;html&gt; &lt;body&gt; &lt;script&gt; var car = { brand: "Toyota", color: "Blue", get getBrand () { return this.brand; }, get getColor () { return this.color; }, set setBrand (newBrand) { this.brand = newBrand; }, set setColor (newColor) { this.color = newColor; } }; document.write("Car Brand: " + car.brand + "&lt;br&gt;Car Color: " + car.color); car.setBrand = "Tesla"; car.setColor = "Red"; document.write("&lt;br&gt;&lt;br&gt;Car Brand: " + car.brand + "&lt;br&gt;Car Color: " + car.color); &lt;/script&gt; &lt;/body&gt; &lt;/html&gt;</pre>	2 M Getter 1 Mark and Setter 1 Mark
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## Examination Paper Analysis

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Summer -2022	Unit 1 <b>Basics of JavaScript Programmin g</b>	1.(a) State the features of JavaScript. Ans:  1) Lightweight JavaScript does not have too many language constructs. JavaScript uses <b>dynamic typing</b> , so everything that you declare or assign, the interpreter tries to figure out, what should be the type of a certain variable. 2) Object-oriented 3) Interpreted based 4) Handling date and Time 5) Validating user inputs 6) Event Handling	2M  Any four feature One feature for ½ marks
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## Examination Paper Analysis

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	<p>1.(c) Write a JavaScript program to check whether entered number is prime or not.</p> <p>Ans:</p> <pre>&lt;html&gt; &lt;body&gt; &lt;script&gt; var i, chk=0; var num = parseInt(prompt("Enter a positive number: ")); for(i=2; i&lt;num; i++) {   if(num%2==0)   {     chk++;     break;   } } if(chk==0)   document.write(num + " is a Prime Number"); else   document.write(num + " is not a Prime Number"); &lt;/script&gt; &lt;/body&gt; &lt;/html&gt;</pre>	2 M Proper correct logic program 2 Mark
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## Examination Paper Analysis

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	<p>2.(a) Write a JavaScript program to validate user accounts for multiple set of user ID and password (using switch case statement).</p> <p>Ans:</p> <pre>&lt;html&gt; &lt;body&gt; Enter your User ID &lt;input type="text" id="id"&gt; &lt;br&gt;&lt;br&gt; Enter your Password &lt;input type="password" id="pass"&gt; &lt;br&gt;&lt;br&gt; &lt;input type="submit" onclick="check()"&gt; &lt;br&gt;&lt;br&gt; &lt;p id="display"&gt;&lt;/p&gt; &lt;script&gt; function check() { var uid = document.getElementById('id').value; var pass = document.getElementById('pass').value; switch(uid){ case "darshan.khapekar@vpt.edu.in": if(pass == "darshan@123"){ document.getElementById('display').innerHTML = "Valid User"; } break; case "prashant.yelurkar@vpt.edu.in": if(pass == "prashant@123"){ document.getElementById('display').innerHTML = "Valid User"; } break; case "konisha.thakare@vpt.edu.in": if(pass == "konisha@123"){ document.getElementById('display').innerHTML = "Valid User"; } break; default: document.getElementById('display').innerHTML = "Invalid User"; } } &lt;/script&gt;</pre>	4 M Any proper correct logic program 4 M
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## Examination Paper Analysis

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		<pre>&lt;/body&gt; &lt;/html&gt;</pre>	
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## Examination Paper Analysis

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	<p>4.(a) Differentiate between For-loop and For-in loop.</p> <p>Ans:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; padding: 5px;">For loop</th><th style="text-align: center; padding: 5px;">For-in loop</th></tr> </thead> <tbody> <tr> <td style="padding: 5px;">for loop provides a concise way of writing the loop structure.</td><td style="padding: 5px;">For-in loop in JavaScript is used to iterate over the properties of an object.</td></tr> <tr> <td style="padding: 5px;">For instance, if you want to iterate over even numbers, you'd need to use the normal for loop</td><td style="padding: 5px;">Certainly, for objects, the for-in loop allows you to get the property name in the iteration variable.</td></tr> <tr> <td style="padding: 5px;"> <pre>for (expr 1; expr 2; expr3) {     // code block to be executed }</pre> </td><td style="padding: 5px;"> <pre>for (x in object) {     code block to be executed }</pre> </td></tr> <tr> <td style="padding: 5px;"> <pre>// program to display text 5 times const n = 5;  // looping from i = 1 to 5 for (let i = 1; i &lt;= n; i++) {     console.log(`I love JavaScript.`); }</pre> </td><td style="padding: 5px;"> <pre>&lt;script&gt; var code= {     CO : "Comp Engg.",     IF : "Info Tech",     EJ : "Electronics" } // using for...in for ( var i in code) {     var c= code[i];     // display the values     document.write(i+"="+c+"&lt;br&gt;"); } &lt;/script&gt;</pre> </td></tr> </tbody> </table>	For loop	For-in loop	for loop provides a concise way of writing the loop structure.	For-in loop in JavaScript is used to iterate over the properties of an object.	For instance, if you want to iterate over even numbers, you'd need to use the normal for loop	Certainly, for objects, the for-in loop allows you to get the property name in the iteration variable.	<pre>for (expr 1; expr 2; expr3) {     // code block to be executed }</pre>	<pre>for (x in object) {     code block to be executed }</pre>	<pre>// program to display text 5 times const n = 5;  // looping from i = 1 to 5 for (let i = 1; i &lt;= n; i++) {     console.log(`I love JavaScript.`); }</pre>	<pre>&lt;script&gt; var code= {     CO : "Comp Engg.",     IF : "Info Tech",     EJ : "Electronics" } // using for...in for ( var i in code) {     var c= code[i];     // display the values     document.write(i+"="+c+"&lt;br&gt;"); } &lt;/script&gt;</pre>	4 M  Any four points of difference 1 point one mark
For loop	For-in loop											
for loop provides a concise way of writing the loop structure.	For-in loop in JavaScript is used to iterate over the properties of an object.											
For instance, if you want to iterate over even numbers, you'd need to use the normal for loop	Certainly, for objects, the for-in loop allows you to get the property name in the iteration variable.											
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## Examination Paper Analysis

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		<p>5.(a) Write a JavaScript to checks whether a passed string is palindrome or not.</p> <p>Ans:</p> <pre>&lt;script&gt; // program to check if the string is palindrome or not function checkPalindrome(string) {     // convert string to an array     const arrayValues = string.split("");     // reverse the array values     const reverseArrayValues = arrayValues.reverse();     // convert array to string     const reverseString = reverseArrayValues.join("");      if(string == reverseString) {         document.write('It is a palindrome');     }     else {         document.write('It is not a palindrome');     } } //take input const string = prompt('Enter a string: '); checkPalindrome(string); &lt;/script&gt;</pre>	6 M Correct logic program 6 marks
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## Examination Paper Analysis

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Summer-2023	Unit 2 Array, Function and String	1.(d) Write JavaScript that initializes an array called Colors with the names of 3 Colors and display array elements. Ans: <pre>&lt;html lang="en"&gt;  &lt;body&gt; &lt;script&gt; // Creating variables var colors = ["Red", "Green", "Blue"];  // Printing variable values document.write(colors + "&lt;br&gt;");  &lt;/script&gt; &lt;/body&gt; &lt;/html&gt;</pre>	2 M Correct logic program 2 Marks
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## Examination Paper Analysis

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	<p>1.(e) Explain calling a function with arguments in JavaScript with example.</p> <p>Ans:</p> <p>Each function definition contains a parameter list enclosed in the parenthesis.</p> <p>Syntax to declare the function along the parameter lists is:</p> <pre>Function function_name(parameter_list) {     //Code to be excuted }</pre> <p>Example:</p> <pre>&lt;script&gt; function maxTwo(x,y) { if(x,y)     return x; else     return y; }&lt;/script&gt;</pre>	2M Explanation 1 M Example 1 M
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## Examination Paper Analysis

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	<p>2.(d) Write the use of charCodeAt() and fromCharCode() method with syntax and example</p> <p>Ans:</p> <p>charChodeAt():</p> <ul style="list-style-type: none"><li>• The charCodeAt() method takes an integer as an argument that represents the index of the character in which you're interested. If you don't pass an argument, it defaults to index 0.</li><li>• The charCodeAt() method returns the Unicode number of the string: <code>var UnicodeNum = StringName.charCodeAt()</code></li></ul> <p>Example:</p> <pre>&lt;script&gt; var x="Javatpoint"; document.writeln(x.charCodeAt(3)); &lt;/script&gt;</pre> <p>fromCharCode():</p> <ul style="list-style-type: none"><li>• If you need to know the character, number, or symbol that is assigned to a Unicode number, use the fromCharCode() method. The fromCharCode() method requires one argument, which is the Unicode number.</li></ul> <p>Example:</p> <pre>&lt;html&gt; &lt;body&gt; &lt;script&gt;  var res = String.fromCharCode(72, 69, 76, 76, 79);      document.write("&lt;br&gt;"+res); &lt;/script&gt; &lt;/body&gt; &lt;/html&gt;</pre>	4 M 2M for charCo deAt() 2M for fromCh arCode ()
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## Examination Paper Analysis

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	<p>3.(a) Differentiate between push() and join() method of array object with respect to use,syntax,return value and example.</p> <p>Ans:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 5px;">Push()</th><th style="text-align: left; padding: 5px;">Join()</th></tr> </thead> <tbody> <tr> <td style="padding: 5px;">This method adds zero or more elements to the end of the array.</td><td style="padding: 5px;">Returns the new string by concatenating all of the elements in an array separated by a specified character.</td></tr> <tr> <td style="padding: 5px;">Syntax: arr.push(element1, element2,---);</td><td style="padding: 5px;">Syntax: arr.join(separator); Separator is an optional parameter. By default it is comma</td></tr> <tr> <td style="padding: 5px;">Returns the new length of the array after appending the new elements into the an array.</td><td style="padding: 5px;">Returns the string with all the array elements joined by separator</td></tr> <tr> <td style="padding: 5px;">Example:  <pre>&lt;html&gt; &lt;head&gt; &lt;title&gt; Array&lt;/title&gt; &lt;body&gt; &lt;script&gt; var fruits = new Array(3); fruits[0] = "Banana"; fruits[1] = "Orange"; fruits[2] = "Apple"; fruits[3] = "Mango"; for(i=0;i&lt;fruits.length;i++) {     document.write(fruits[i] + " "+&lt;br&gt;); } fruits.push("Lemon"); for(i=0;i&lt;fruits.length;i++) {     document.write(fruits[i] + " "); } &lt;/script&gt; &lt;/body&gt; &lt;/html&gt;</pre> </td><td style="padding: 5px;">Example"   <pre>&lt;html&gt; &lt;body&gt; &lt;script&gt; var products = new Array(); products[0] = 'Car '; products[1] = 'Water'; products[2] = 'Soap'; products[3] = 'Pizza'; var str = products.concat(); document.write(str); document.write(&lt;br&gt;); var str = products.join(' '); document.write(str); &lt;/script&gt; &lt;/body&gt; &lt;/html&gt;</pre> </td></tr> </tbody> </table>	Push()	Join()	This method adds zero or more elements to the end of the array.	Returns the new string by concatenating all of the elements in an array separated by a specified character.	Syntax: arr.push(element1, element2,---);	Syntax: arr.join(separator); Separator is an optional parameter. By default it is comma	Returns the new length of the array after appending the new elements into the an array.	Returns the string with all the array elements joined by separator	Example: <pre>&lt;html&gt; &lt;head&gt; &lt;title&gt; Array&lt;/title&gt; &lt;body&gt; &lt;script&gt; var fruits = new Array(3); fruits[0] = "Banana"; fruits[1] = "Orange"; fruits[2] = "Apple"; fruits[3] = "Mango"; for(i=0;i&lt;fruits.length;i++) {     document.write(fruits[i] + " "+&lt;br&gt;); } fruits.push("Lemon"); for(i=0;i&lt;fruits.length;i++) {     document.write(fruits[i] + " "); } &lt;/script&gt; &lt;/body&gt; &lt;/html&gt;</pre>	Example" <pre>&lt;html&gt; &lt;body&gt; &lt;script&gt; var products = new Array(); products[0] = 'Car '; products[1] = 'Water'; products[2] = 'Soap'; products[3] = 'Pizza'; var str = products.concat(); document.write(str); document.write(&lt;br&gt;); var str = products.join(' '); document.write(str); &lt;/script&gt; &lt;/body&gt; &lt;/html&gt;</pre>	<p style="text-align: center;"><b>4 M</b></p> <p>Any 4 point related to syntax, return value and example</p>
Push()	Join()											
This method adds zero or more elements to the end of the array.	Returns the new string by concatenating all of the elements in an array separated by a specified character.											
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## Examination Paper Analysis

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	<p>3.(b) Write a Javascript code to perform following operation on string (Use split() method) Input string : Sudha Narayana Murthy" Display output as First Name:Sudha Middle Name: Narayana Last Name: Murthy</p> <p>Ans: &lt;script&gt; Var str=" Sudha Narayana Murth" Var arr=str.split(" ",3); document.write("First Name:"+arr[0]+&lt;br&gt; document.write("Middle Name:"+arr[1]+&lt;br&gt; document.write("Last Name:"+arr[1]+&lt;br&gt; &lt;/script&gt;</p>	4 M  Any correct logic program 4 Marks
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## Examination Paper Analysis

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	<p>3.(c) Explain splice() method of array object with syntax and example.</p> <p>Ans:</p> <p>The splice() method can be used to add new items to an array, and removes elements from an array.</p> <p>Syntax: arr.splice(start_index,removed_elements,list_of_elemnts_to_be_added);</p> <p>Parameter:</p> <ul style="list-style-type: none"><li>•The first parameter defines the position where new elements should be added (spliced in).</li><li>•The second parameter defines how many elements should be removed.</li><li>•The list_of_elemnts_to_be_added parameter define the new elements to be added(optional).</li></ul> <p>Output:</p> <pre>&lt;html&gt; &lt;body&gt; &lt;script&gt; var fruits = ["Banana", "Watermelon", "Chikoo", "Mango", "Orange", "Apple"]; document.write(fruits+"&lt;br&gt;"); fruits.splice(2,2, "Lemon", "Kiwi"); document.write(fruits+"&lt;br&gt;"); fruits.splice(0,2); //removes first 2 elements from array document.write(fruits+"&lt;br&gt;"); &lt;/script&gt; &lt;/body&gt; &lt;/html&gt;</pre> <p>Output:</p> <p>Banana,Watermelon,Chikoo,Mango,Orange,Apple Banana,Watermelon,Lemon,Kiwi,Orange,Apple Lemon,Kiwi,Orange,Apple</p>	4 M	Explanation 2 marks Example 2 Marks
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## Examination Paper Analysis

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Winter - 2022	Unit 2 Array, Function and String	1.(d) Write a program using sort method of array object. Ans: <pre>&lt;html&gt; &lt;body&gt; &lt;script&gt; var array =[5,1,9,7,5]; // sorting the array sorted = array.sort(); document.write(sorted); &lt;/script&gt; &lt;/body&gt; &lt;/html&gt;</pre>	2 M  Correct Logic program 2 Marks
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## Examination Paper Analysis

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	<p>2.(a) Write a JavaScript program that will display current date in DD/MM/YYYY format.</p> <p>Ans:</p> <pre>&lt;!DOCTYPE html&gt; &lt;html lang="en"&gt; &lt;head&gt; &lt;meta charset="UTF-8"&gt; &lt;meta http-equiv="X-UA-Compatible" content="IE=edge"&gt; &lt;meta name="viewport" content="width=device-width, initial-scale=1.0"&gt; &lt;title&gt;Document&lt;/title&gt; &lt;/head&gt; &lt;body&gt; &lt;script&gt; var d=new Date(); var currentDate=d.getDate()+'/'+(d.getMonth()+1))+'/'+d.getFullYear() document.write(currentDate) &lt;/script&gt; &lt;/body&gt; &lt;/html&gt;</pre>	4 M Correct logic program 4 Marks
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## Examination Paper Analysis

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	<p>2.(b) Write a JavaScript program that will remove the duplicate element from an Array.</p> <p>Ans:</p> <pre>&lt;!DOCTYPE html&gt; &lt;html lang="en"&gt; &lt;body&gt; &lt;script&gt; let arr = ["scale", "happy", "strength", "peace", "happy", "happy"]; function removeDuplicates(arr) { let unique = []; for (i = 0; i &lt; arr.length; i++) { if (unique.indexOf(arr[i]) === -1) { unique.push(arr[i]); } } return unique; } document.write(removeDuplicates(arr)); &lt;/script&gt; &lt;/body&gt; &lt;/html&gt;</pre>	4 M Correct logic program 4 Marks
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## Examination Paper Analysis

	<p>2 (c) Write a JavaScript program that will display list of student in ascending order according to the marks &amp; calculate the average performance of the class.</p> <table border="1"><thead><tr><th>Student Name</th><th>Marks</th></tr></thead><tbody><tr><td>Amit</td><td>70</td></tr><tr><td>Sumit</td><td>78</td></tr><tr><td>Abhishek</td><td>71</td></tr></tbody></table> <p>Ans:</p> <pre>&lt;html&gt; &lt;body&gt; &lt;script&gt; var students = [["Amit", 70],["Sumit", 78],["Abhishek", 71],]; var Avgmarks = 0; for (var i = 0; i &lt; students.length; i++) { Avgmarks += students[i][1]; for (var j = i + 1; j &lt; students.length; j++) { if (students[i] &gt; students[j]) { a = students[i]; students[i] = students[j]; students[j] = a } } } var avg = Avgmarks / students.length; document.write("Average grade: " + Avgmarks / students.length); document.write("&lt;br&gt;&lt;br&gt;"); for (i = 0; i &lt; students.length; ++i){ document.write(students[i]+"&lt;br&gt;") } &lt;/script&gt; &lt;/body&gt; &lt;/html&gt;</pre>	Student Name	Marks	Amit	70	Sumit	78	Abhishek	71	4 M Correct Program 4 Marks
Student Name	Marks									
Amit	70									
Sumit	78									
Abhishek	71									

## Examination Paper Analysis

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2.(d) Write and explain a string functions for converting string to number and number to string.

Ans:

To convert string to number we can use parseInt() which converts a string number to an integer number. Similarly we can use parseFloat(), Number() for converting string to number.

Eg-

```
var a=prompt('Enter a number');
var b=parseInt(prompt('Enter a number'));
document.write(typeof a+"<br>");
document.write(typeof b);
```

To convert form number to string we can use toString()

```
<html>
<body>
<p>toString() returns a number as a string:</p>
<script>
let num = 12;
let text = num.toString();
document.write(num)
</script>
</body>
</html>
```

## Examination Paper Analysis

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	<p>3.(a) Differentiate between concat( ) &amp; join( ) methods of array object.</p> <p>Ans:</p> <table border="1"><thead><tr><th>concat() of array object</th><th>join() of array object</th></tr></thead><tbody><tr><td>The concat() method concatenates (joins) two or more arrays.</td><td>The join() method returns an array as a string.</td></tr><tr><td>The concat() method does not change the existing arrays.</td><td>The join() method does not change the original array.</td></tr><tr><td>Syntax: array1.concat(array2, array3, ..., arrayX)</td><td>Syntax: array.join(separator) Any separator can be specified. The default is comma (,).</td></tr><tr><td>Example: <pre>&lt;script&gt; var arr1 = ["Java", "Python"]; var arr2 = [1, 2, 3]; var arr3 = arr1.concat(arr2); document.write(arr3); &lt;/script&gt;</pre></td><td>Example: <pre>&lt;script&gt; var fruits = ["Banana", "Orange", "Apple", "Mango"]; var text = fruits.join("#"); document.write(text); &lt;/script&gt;</pre></td></tr></tbody></table>	concat() of array object	join() of array object	The concat() method concatenates (joins) two or more arrays.	The join() method returns an array as a string.	The concat() method does not change the existing arrays.	The join() method does not change the original array.	Syntax: array1.concat(array2, array3, ..., arrayX)	Syntax: array.join(separator) Any separator can be specified. The default is comma (,).	Example: <pre>&lt;script&gt; var arr1 = ["Java", "Python"]; var arr2 = [1, 2, 3]; var arr3 = arr1.concat(arr2); document.write(arr3); &lt;/script&gt;</pre>	Example: <pre>&lt;script&gt; var fruits = ["Banana", "Orange", "Apple", "Mango"]; var text = fruits.join("#"); document.write(text); &lt;/script&gt;</pre>	4 M Any 4 points 4 Marks
concat() of array object	join() of array object											
The concat() method concatenates (joins) two or more arrays.	The join() method returns an array as a string.											
The concat() method does not change the existing arrays.	The join() method does not change the original array.											
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Example: <pre>&lt;script&gt; var arr1 = ["Java", "Python"]; var arr2 = [1, 2, 3]; var arr3 = arr1.concat(arr2); document.write(arr3); &lt;/script&gt;</pre>	Example: <pre>&lt;script&gt; var fruits = ["Banana", "Orange", "Apple", "Mango"]; var text = fruits.join("#"); document.write(text); &lt;/script&gt;</pre>											

## Examination Paper Analysis

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	<p>3.(b) Write a JavaScript function to check the first character of a string is uppercase or not.</p> <p>Ans:</p> <pre>&lt;html&gt; &lt;body&gt; &lt;script&gt; function upper_case(str) { regexp = /^[A-Z]/; if (regexp.test(str)) { document.write("String's first character is uppercase"); } else { document.write("String's first character is not uppercase"); } } upper_case('Abcd'); &lt;/script&gt; &lt;/body&gt; &lt;/html&gt;</pre> <p>OR</p> <pre>&lt;script&gt; function firstIsUppercase(str) { if (str.length === 0) { return false; } return str.charAt(0).toUpperCase() === str.charAt(0); } if (firstIsUppercase(prompt("Enter text"))) { document.write('First letter is uppercase'); } else { document.write('First letter is NOT uppercase'); } &lt;/script&gt;</pre>	4 M Correct Prgram fro 4 Marks
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## **Examination Paper Analysis**

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## Examination Paper Analysis

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3.(c) Write a JavaScript function to merge two array & removes all duplicate values.

Ans:

```
<html>
<body>
<script>
function merge_array(array1, array2)
{
var result_array = [];
var arr = array1.concat(array2);
var len = arr.length;
var assoc = {};
while(len--)
{
var item = arr[len];
if(!assoc[item])
{
result_array.unshift(item);
assoc[item] = true;
}
}
return result_array;
}
var array1 = [1, 2, 3, 4, 7, 9];
var array2 = [2, 30, 1, 40, 9];
document.write(merge_array(array1, array2));
</script>
</body>
</html>
```

Output:

3,4,7,2,30,1,40,9

OR

```
<html>
<body>
<script>
function mergearr(arr1, arr2)
{
// merge two arrays
var arr = arr1.concat(arr2);
var uniqueArr = [];
for (var i = 0; i < arr.length; i++) {
    var item = arr[i];
    if (uniqueArr.indexOf(item) === -1) {
        uniqueArr.push(item);
    }
}
document.write(uniqueArr);
}
</script>
</body>
</html>
```

## Examination Paper Analysis

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		<pre>// loop through array for(var i of arr) { if(uniqueArr.indexOf(i) === -1) { uniqueArr.push(i); } } document.write(uniqueArr); }  var array1 = [1, 2, 3, 6, 8]; var array2 = [2, 3, 5, 56, 78, 3] mergearr(array1, array2); &lt;/script&gt; &lt;/body&gt; &lt;/html&gt; Output: 1,2,3,6,8,5,56,78</pre>									
Summer-2022	Unit 2 Array, Function and String	2.(b) Differentiate between concat() and join() methods of array object. Ans: <table border="1"><tr><td>concat() of array object</td><td>join() of array object</td></tr><tr><td>The concat() method concatenates (joins) two or more arrays.</td><td>The join() method returns an array as a string.</td></tr><tr><td>The concat() method does not change the existing arrays.</td><td>The join() method does not change the original array.</td></tr><tr><td>Syntax: array1.concat(array2, array3, ..., arrayX)</td><td>Syntax: array.join(separator) Any separator can be specified. The default is comma (,).</td></tr></table>	concat() of array object	join() of array object	The concat() method concatenates (joins) two or more arrays.	The join() method returns an array as a string.	The concat() method does not change the existing arrays.	The join() method does not change the original array.	Syntax: array1.concat(array2, array3, ..., arrayX)	Syntax: array.join(separator) Any separator can be specified. The default is comma (,).	
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Syntax: array1.concat(array2, array3, ..., arrayX)	Syntax: array.join(separator) Any separator can be specified. The default is comma (,).										

## Examination Paper Analysis

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	<p>Example:</p> <pre>&lt;script&gt; var arr1 = ["Java", "Python"]; var arr2 = [1, 2, 3]; var arr3 = arr1.concat(arr2); document.write(arr3); &lt;/script&gt;</pre>	<p>Example:</p> <pre>&lt;script&gt; var fruits = ["Banana", "Orange", "Apple", "Mango"]; var text = fruits.join("#"); document.write(text); &lt;/script&gt;</pre>	
	<p>4.(b) Write a javascript function that accepts a string as a parameter and find the length of the string.</p> <p>Ans:</p> <pre>&lt;html&gt; &lt;body&gt; &lt;p id="demo"&gt;&lt;/p&gt; &lt;script&gt; function len(text) {     return (text.length); } document.getElementById("demo").innerHTML = "length of string="+len("Information"); &lt;/script&gt; &lt;/body&gt; &lt;/html&gt;</pre> <p>Output:</p> <p style="color: #800080;">length of string=11</p>	<p>5.(b) Develop javascript to convert the given character to unicode and vice-versa.</p> <p>Ans:</p> <pre>&lt;script&gt; var x="HeLLO"; document.writeln(x.charCodeAt(3)); document.writeln("&lt;br&gt;" +x.charCodeAt(1)); document.writeln("&lt;br&gt;" +x.charCodeAt(4)); document.writeln("&lt;br&gt;"); var res = String.fromCharCode(72, 69, 76, 76, 79); document.write(res);</pre>	

## Examination Paper Analysis

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		<pre>&lt;/script&gt;</pre> <p>Output:</p> <p>76 101 79 <b>HELLO</b></p> <p>6.(c) Write a javascript function to generate Fibonacci series till user defined limit.</p> <p>Ans:</p> <pre>&lt;script&gt; function fibonacci(num) {     var x = 0;     var y = 1;     var z;     var i = 0;     document.write(x);     document.write("&lt;br&gt;" + y);     for (i = 2; i &lt; num; i++)     {         z = x + y;         x = y;         y = z;         document.write("&lt;br&gt;" + y);     } } var num = parseInt(prompt('Enter the number of terms: ')); answer = fibonacci(num); &lt;/script&gt;</pre>	
Summer-2023	Unit 3 Form and Event Handling	1.(f) Enlist any four mouse events with their use. Ans: Onclick: Fires on a mouse click on the element	2 6

## Examination Paper Analysis

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	<p>Ondblclick: Fires on a mouse double-click on the element Onmousedown: Fires when a mouse button is pressed down on an element Onmousemove: Fires when the mouse pointer is moving while it is over an element Onmouseout: Fires when the mouse pointer moves out of an element Onmouseover: Fires when the mouse pointer moves over an element Onmouseup: Fires when a mouse button is released over an element Onwheel: Fires when the mouse wheel rolls up or down over an element Oncontextmenu: oncontextmenu event occurs when the user right-clicks on an element to open the context menu.</p> <p>5.(a) Write HTML code to design a form that display two textboxes for accepting two numbers, one textbox for accepting result and two buttons as ADDITION and SUBTRACTION. Write proper JavaScript such that when the user clicks on any one of the button, respective operation will be performed on two numbers and result will be displayed in result textbox.</p> <p>5.(b) Write HTML code to design a form that displays two buttons START and STOP. Write a JavaScript code such that when user clicks on START button, real time digital clock will be displayed on screen. When user clicks on STOP button, clock will stop displaying time (Use Timer Methods)</p> <p>Ans:</p> <pre>&lt;html&gt; &lt;body&gt; &lt;p&gt;A script on this page starts this clock:&lt;/p&gt; &lt;p id="demo"&gt;&lt;/p&gt; &lt;button onclick="clearInterval(myVar)"&gt;Stop time&lt;/button&gt; &lt;script&gt; var myVar = setInterval(myTimer ,1000); function myTimer() {     var d = new Date();     document.getElementById("demo").innerHTML = d.toLocaleTimeString(); } &lt;/script&gt; &lt;/body&gt; &lt;/html&gt;</pre> <p>6.(a) Explain how to evaluate Radiobutton in JavaScript with suitable example.</p> <p>Ans:</p>	6 6
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## Examination Paper Analysis

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The radio button allows the user to choose one of a predefined set of options. You can define groups with the name property of the radio buttons.

Radio buttons with the same name belong to the same group. Radio buttons with different names belongs to the different groups. At most one radio button can be checked in a group.

Syntax:

```
<input type="radio" id="male" name="gender" value="male">
```

Code:

```
<html>
<body>
<form method="post" action=" " onsubmit="return ValidateForm();">
<fieldset>
<legend>Select Course:</legend>
<input type="radio" name="br" value="IT" checked>IT<br>
<input type="radio" name="br" value="CO">CO<br>
<input type="radio" name="br" value="EJ">EJ<br>
<br>
<input type="submit" value="Submit now">
</fieldset>
</form>
<script type="text/javascript">
function ValidateForm()
{
    var obj = document.getElementsByName("br");
    for(var i = 0; i < obj.length; i++)
    {
        if(obj[i].checked == true)
        {
            if(confirm("You have selected " + obj[i].value))
                return true;
            else
                return false;
        }
    }
}
</script>
</body>
</html>
```

## Examination Paper Analysis

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Winter-2022	Unit 3 Form and Event Handling	2 6
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## Examination Paper Analysis

---

```
{  
padding: 10px;  
}  
</style>  
</head>  
<body>  
<table>  
<tbody>  
<tr>  
<td>Name : </td>  
<td> <input type="text" id="name" required></td>  
</tr>  
<tr>  
<td>Email : </td>  
<td> <input type="email" id="email" required></td>  
</tr>  
<tr>  
<td>Pin code : </td>  
<td> <input type="number" id="pin" required></td>  
</tr>  
<tr>  
<td></td>  
<td><button onclick="submit()">Submit</button></td>  
</tr>  
</tbody>  
</table>  
</body>  
<script>  
function submit()  
{  
var name = document.getElementById("name").value;  
var email = document.getElementById("email").value;  
var pin = Number(document.getElementById("pin").value);  
if(name.length==0 || email.length==0 || pin.length==0)  
{  
alert("Please enter value in all fields.")  
}  
else  
{  
var pinpattern =/^[4]{1}[0-9]{5}$/;
```

## Examination Paper Analysis

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```
if( pinpattern.test(pin))
{
    alert("Perfect Pin code");
}
else
{
    alert("Wrong Pin code.");
}
}
}
}

</script>
</html>
```

6.(a) Write HTML script that will display dropdown list containing options such as Red, Green, Blue & Yellow. Write a JavaScript program such that when the user selects any options. It will change the background colour of webpage.

Ans:

```
<html>
<body>
<label for="color">Choose a Background Color:</label>
<select name="color" id="color" class="color" onchange="changeColor()">
<option value="red">Red</option>
<option value="green">Green</option>
<option value="blue">Blue</option>
<option value="yellow">Yellow</option>
</select>
<script type="text/javascript">
function changeColor() {
var color = document.getElementById("color").value;
switch(color){
case "green":
document.body.style.backgroundColor = "green";
break;
case "red":
document.body.style.backgroundColor = "red";
break;
case "blue":
document.body.style.backgroundColor = "blue";
break;
case "yellow":
document.body.style.backgroundColor = "yellow";
break;
}
}
</script>

```

# **Examination Paper Analysis**

		<pre> break; default: document.body.style.backgroundColor = "white"; break; } } &lt;/script&gt; &lt;/body&gt; &lt;/html&gt;</pre>	
Summer-2022	Unit 3 Form and Event Handling	<p>1.(d) Explain following form events :</p> <p>(i) onmouseup (ii) onblur</p> <p>Ans:</p> <p>The onmouseup event occurs when a mouse button is released over an element.</p> <p>Example:</p> <pre>&lt;p id="myP" onmousedown="mouseDown()" onmouseup="mouseUp()"&gt;</pre> <p>The mouseDown() function sets the color of this text to red.</p> <p>The mouseUp() function sets the color of this text to blue.</p> <pre>&lt;/p&gt;</pre> <p>The onblur event occurs when an HTML element loses focus.</p> <p>Example:</p> <pre>&lt;input type="text" id="fname" onblur="myFunction()"&gt;</pre> <pre>&lt;script&gt;</pre> <pre>function myFunction() {   let x = document.getElementById("fname");   x.value = x.value.toUpperCase(); }</pre> <p>1.(e) Write a javascript program to changing the contents of a window.</p> <p>Ans:</p> <p>In following example, we are creating only one object of window and each time same window remain open and content of window changes.</p> <pre> &lt;html&gt; &lt;body&gt; &lt;script&gt; function openWin1(ad) {   myWindow = window.open(ad, "myWindow", "width=500,height=500"); }</pre>	2 2 4 4

## Examination Paper Analysis

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```
</script>
<button value="Google" onclick="openWin1('https://www.google.com')>Google</button>
<button value="Vidyalankar" onclick="openWin1('http://vpt.edu.in')>Vidyalanakr</button>
</body>
<html>
```

2.(c) Write a javascript program to demonstrate java intrinsic function.

Ans:

An intrinsic function is often used to replace the Submit button and the Reset button with your own graphical images, which are displayed on a form in place of these buttons.

Example:

```
<html>
<head>
<title>Using Intrinsic JavaScript Functions</title>
</head>
<body>
<FORM name="contact" action="#" method="post">
<P>
First Name: <INPUT type="text" name="Fname"/> <BR>
Last Name: <INPUT type="text" name="Lname"/><BR>
Email: <INPUT type="text" name="Email"/><BR>


</P>
</FORM>
</body>
</html>
```

3.(c) Write a javascript program to calculate add, sub, multiplication and division of two number (input from user). Form should contain two text boxes to input numbers of four buttons for addition, subtraction, multiplication and division.

Ans:

```
<html>
<head>
<script>
function multiplyBy()
{
```

## Examination Paper Analysis

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		<pre>num1 = document.getElementById("firstNumber").value; num2 = document.getElementById("secondNumber").value; document.getElementById("result").innerHTML = num1 * num2; }  function divideBy() {     num1 = document.getElementById("firstNumber").value;     num2 = document.getElementById("secondNumber").value; document.getElementById("result").innerHTML = num1 / num2; } function add() {     num1 = parseInt(document.getElementById("firstNumber").value);     num2 = parseInt(document.getElementById("secondNumber").value); document.getElementById("result").innerHTML = num1 + num2; } function subtract() {     num1 = document.getElementById("firstNumber").value;     num2 = document.getElementById("secondNumber").value; document.getElementById("result").innerHTML = num1 - num2; } &lt;/script&gt; &lt;/head&gt; &lt;body&gt; &lt;form&gt; 1st Number : &lt;input type="text" id="firstNumber"&gt;&lt;br&gt; 2nd Number: &lt;input type="text" id="secondNumber"&gt;&lt;br&gt;&lt;br&gt; &lt;input type="button" onClick="multiplyBy()" Value="Multiply"&gt; &lt;input type="button" onClick="divideBy()" Value="Divide"&gt; &lt;input type="button" onClick="add()" Value="Addition"&gt; &lt;input type="button" onClick="subtract()" Value="Subtraction"&gt; &lt;/form&gt; &lt;p&gt;The Result is : &lt;br&gt; &lt;p id = "result"&gt;&lt;/p&gt; &lt;/p&gt; &lt;/body&gt; &lt;/html&gt;</pre>	
Summer-	Unit 4	Q3 d. Explain how to create and read Persistent Cookies in JavaScript with example.	4

## Examination Paper Analysis

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2023		<p>Ans:</p> <p>A cookie is an amount of information that persists between a server-side and a client-side.</p> <p>A persistent cookie is a cookie that is assigned an expiration date.</p> <p>Example:</p> <pre>&lt;html&gt; &lt;head&gt; &lt;script&gt; function writeCookie() { var d=new Date(); d.setTime(d.getTime()+(1000*60*60*24)); with(document.myform) { document.cookie="Name=" + person.value + ";expires=" +d.toGMTString(); } } function readCookie() { if(document.cookie=="") document.write("cookies not found"); else document.write(document.cookie); } &lt;/script&gt; &lt;/head&gt; &lt;body&gt; &lt;form name="myform" action=""&gt; Enter your name: &lt;input type="text" name="person"&gt;&lt;br&gt; &lt;input type="Reset" value="Set C" type="button" onclick="writeCookie()"&gt; &lt;input type="Reset" value="Get C" type="button" onclick="readCookie()"&gt; &lt;/form&gt; &lt;/body&gt; &lt;/html&gt;</pre>	
Winter-	Unit 4	Q1 g. Describe browser location object.	2

## Examination Paper Analysis

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2022	<p>Ans:</p> <p>i) The location object contains information about the current URL. ii) The location object is a property of the window object. iii) The location object is accessed with: window.location or just location.</p> <p><b>Example:</b></p> <pre>&lt;!DOCTYPE html&gt; &lt;html&gt; &lt;body&gt; &lt;h1&gt;The Window Location Object&lt;/h1&gt; &lt;p id="demo"&gt;&lt;/p&gt; &lt;script&gt; let origin = window.location.origin; document.getElementById("demo").innerHTML = origin; &lt;/script&gt; &lt;/body&gt; &lt;/html&gt;</pre> <p>Q5 a. Write HTML script that will display following structure</p> <table border="1"><tr><td>Name</td><td><input type="text"/></td></tr><tr><td>Email</td><td><input type="text"/></td></tr><tr><td>Pin Code</td><td><input type="text"/></td></tr><tr><td></td><td><input type="button" value="Submit"/></td></tr></table> <p>Write the JavaScript code for below operations : (1) Name, Email &amp; Pin Code should not be blank. (2) Pin Code must contain 6 digits &amp; it should accept any characters.</p> <p>Ans:</p> <pre>&lt;html&gt; &lt;head&gt; &lt;style&gt; table,tr,td { border: solid black 1px;</pre>	Name	<input type="text"/>	Email	<input type="text"/>	Pin Code	<input type="text"/>		<input type="button" value="Submit"/>	6 6
Name	<input type="text"/>									
Email	<input type="text"/>									
Pin Code	<input type="text"/>									
	<input type="button" value="Submit"/>									

## Examination Paper Analysis

---

```
border-collapse: collapse;
}
td
{
padding: 10px;
}
</style>
</head>
<body>
<table>
<tbody>
<tr>
<td>Name :</td>
<td><input type="text" id="name" required></td>
</tr>
<tr>
<td>Email :</td>
<td><input type="email" id="email" required></td>
</tr>
<tr>
<td>Pin code :</td>
<td><input type="number" id="pin" required></td>
</tr>
<tr>
<td></td>
<td><button onclick="submit()">Submit</button></td>
</tr>
</tbody>
</table>
</body>
<script>
function submit()
{
var name = document.getElementById("name").value;
var email = document.getElementById("email").value;
```

## Examination Paper Analysis

---

```
var pin = Number(document.getElementById("pin").value);
if(name.length==0 || email.length==0 || pin.length==0)
{
    alert("Please enter value in all fields.")
}
else
{
    var pinpattern = /^[4]{1}[0-9]{5}$/;
    if( pinpattern.test(pin))
    {
        alert("Perfect Pin code");
    }
    else
    {
        alert("Wrong Pin code.");
    }
}
</script>
</html>
```

Q5 b. Write a webpage that displays a form that contains an input for username & password. User is prompted to enter the input & password & password becomes the value of the cookie. Write a JavaScript function for storing the cookie. It gets executed when the password changes.

Ans:

```
<html>
<head>
<script>
function storeCookie()
{
    var pwd = document.getElementById('pwd').value
    document.cookie = "Password=" + pwd + ";"
    alert("Cookie Stored\n"+document.cookie);
}
</script>
</head>
```

## Examination Paper Analysis

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		<pre>&lt;body&gt; &lt;form name="myForm"&gt; Enter Username &lt;input type="text" id="uname"/&gt;&lt;br/&gt; Enter Password &lt;input type="password" id="pwd"/&gt;&lt;br/&gt; &lt;input type="button" value="Submit" onclick="storeCookie()"/&gt; &lt;p id="panel"&gt;&lt;/p&gt; &lt;/form&gt; &lt;/body&gt; &lt;/html&gt;</pre>									
Summer -2022	Unit 4	<p>Q1 b. Differentiate between session cookies and persistent cookies.</p> <p>Ans:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="padding: 5px;">Session Cookies</th><th style="padding: 5px;">persistent cookies</th></tr> </thead> <tbody> <tr> <td style="padding: 5px;">It resides in memory for the length of the browser session.</td><td style="padding: 5px;">A persistent cookie is a cookie that is assigned an expiration date.</td></tr> <tr> <td style="padding: 5px;">Also known as an in-memory cookie</td><td style="padding: 5px;">Also known as transient cookie.</td></tr> <tr> <td style="padding: 5px;">Session cookie is automatically deleted when the user exits the browser application.</td><td style="padding: 5px;">It is written to the computer's hard disk and remains there until the expiration date has been reached; then it's deleted.</td></tr> </tbody> </table> <p>Q1 e. Write a JavaScript program to changing the contents of a window.</p> <p>Ans:</p> <p>In following example, we are creating only one object of window and each time same window remain open and content of window changes.</p> <pre>&lt;html&gt; &lt;body&gt; &lt;script&gt; function openWin1(ad) {     myWindow = window.open(ad, "myWindow", "width=500,height=500"); } &lt;/script&gt; &lt;button value="Google" onclick="openWin1('https://www.google.com')"&gt;Google&lt;/button&gt;</pre>	Session Cookies	persistent cookies	It resides in memory for the length of the browser session.	A persistent cookie is a cookie that is assigned an expiration date.	Also known as an in-memory cookie	Also known as transient cookie.	Session cookie is automatically deleted when the user exits the browser application.	It is written to the computer's hard disk and remains there until the expiration date has been reached; then it's deleted.	2 2 2 4 4 6
Session Cookies	persistent cookies										
It resides in memory for the length of the browser session.	A persistent cookie is a cookie that is assigned an expiration date.										
Also known as an in-memory cookie	Also known as transient cookie.										
Session cookie is automatically deleted when the user exits the browser application.	It is written to the computer's hard disk and remains there until the expiration date has been reached; then it's deleted.										

## Examination Paper Analysis

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		<pre>&lt;button value="Vidyalankar" onclick="openWin1('http://vpt.edu.in')"&gt;Vidyalanakr&lt;/button&gt; &lt;/body&gt; &lt;html&gt;</pre> <p>Q1 g. Write a JavaScript syntax to accessing elements of another child window.</p> <p>Ans:</p> <p>From the top level window that contains the iFrame you start by getting a reference to the iFrame by using plain old getElementById to select the iFrame by Id. Alternately you can also access the frame via window.frames[0] (or appropriate numeric index). Once the iFrame is selected you can use the contentDocument property to access the child frame content. From there you can access document methods as you normally would – in this case by using getElementById() and then assigning some HTML to the display &lt;div&gt; tag in the child frame.</p> <p>Example: window.frames[0].showMessage("Hello from Main Page in iFrame");</p> <p>Q2 d. Design a webpage that displays a form that contains an input for user name and password. User is prompted to enter the input user name and password and password become value of the cookies. Write the JavaScript function for storing the cookies.</p> <p>Ans:</p> <pre>&lt;html&gt; &lt;head&gt; &lt;script&gt; function storeCookie() {     var pwd = document.getElementById('pwd').value     document.cookie = "Password=" + pwd + ";"     alert("Cookie Stored\n"+document.cookie); } &lt;/script&gt; &lt;/head&gt; &lt;body&gt; &lt;form name="myForm"&gt; Enter Username &lt;input type="text" id="uname"/&gt;&lt;br/&gt; Enter Password &lt;input type="password" id="pwd"/&gt;&lt;br/&gt; &lt;input type="button" value="Submit" onclick="storeCookie()"/&gt; &lt;p id="panel"&gt;&lt;/p&gt;</pre>	
--	--	---	--

## Examination Paper Analysis

---

```
</form>
</body>
</html>
```

Q3 a. Write a JavaScript program to create read, update and delete cookies.

Ans:

```
<html>
  <head>
    <script>
      function writeCookie()
      {
        var d=new Date();
        d.setTime(d.getTime()+(1000*60*60*24));
        with(document.myform)
        {
          document.cookie="Name=" + person.value + ";expires=" +d.toGMTString();
        }
      }
      function readCookie()
      {
        if(document.cookie=="")
          document.write("cookies not found");
        else
          document.write(document.cookie);
      }
    </script>
  </head>
  <body>
    <form name="myform" action="">
      Enter your name:
      <input type="text" name="person"><br>
      <input type="Reset" value="Set" type="button" onclick="writeCookie()">
      <input type="Reset" value="Get" type="button" onclick="readCookie()">
    </form>
  </body>
```

## Examination Paper Analysis

---

```
</html>
```

Q6 a. Write a JavaScript to open a new window and the new window is having two frames. One frame containing button as “click here !”, and after clicking this button an image should open in the second frame of that child window.

Ans:

Code:

```
f.html
```

```
<html>
<head>
<title>Create a Frame</title>
</head>
<frameset rows="60%,40%">
<frame src="b.html" name="a" />
<frame src="im.html" name="b" />
</frameset>
</frameset>
</html>
```

```
b.html
```

```
<html>
<head>
<title>Web Page 1</title>
</head>
<body>
<form action="" method="post">
<p><a href="j.png" target="b">
<input name="WebPage1" value="Click here!" type="button">
</a></p>
</body>
</html>
```

```
im.html
```

```
<html>
```

## Examination Paper Analysis

---

		<pre>&lt;head&gt; &lt;title&gt;Web Page 1&lt;/title&gt; &lt;/head&gt; &lt;body&gt; &lt;img src="i.png"&gt; &lt;/body&gt; &lt;/html&gt;</pre>		
Summer -2023	Unit 5	<p>Q4 d. Explain text and image rollover with suitable example. Ans:</p> <p>Text rollover: We can also create a rollover and rollback for text using the onmouseover and onmouseout.</p> <p>Ans:</p> <pre>&lt;html&gt; &lt;head&gt; &lt;title&gt; text rollovers&lt;/title&gt; &lt;/head&gt; &lt;body&gt; &lt;table border="1" width="100%"&gt; &lt;tbody&gt; &lt;tr valign="top"&gt; &lt;td width="50%"&gt; &lt;a&gt;&lt;img height="500" src="blue.png" width="900" name="clr"&gt;&lt;/a&gt;&lt;/td&gt; &lt;td&gt;&lt;a onmouseover="document.clr.src='blue.png'"&gt; &lt;b&gt;&lt;u&gt; Blue Color&lt;/u&gt;&lt;/b&gt;&lt;/a&gt; 55 &lt;br&gt; &lt;a onmouseover="document.clr.src='red.png'"&gt; &lt;b&gt;&lt;u&gt; Red Color&lt;/u&gt;&lt;/b&gt;&lt;/a&gt; &lt;br&gt; &lt;a onmouseover="document.clr.src='green.png'"&gt; &lt;b&gt;&lt;u&gt; Green Color&lt;/u&gt;&lt;/b&gt;&lt;/a&gt; &lt;/td&gt;</pre>	2 6 6	

# Examination Paper Analysis

```
</tr>
</tbody>
</table>
</body>
</html>
```

## Image Rollover:

```
<html>
<head>
<title>JavaScript Image Rollovers</title>
</head>
<body>

</img>
</body>
</html>
```

Q5 c. Write HTML code to design a form that displays textboxes for accepting UserID and Aadhar No. and a SUBMIT button. UserID should contain 10 alphanumeric characters and must start with Capital Letter. Aadhar No. should contain 12 digits in the format nnnn nnnn nnnn. Write JavaScript code to validate the UserID and Aadhar No. when the user clicks on SUBMIT button.

Ans:

```
<html>
<body>
<script>
function submitdata()
{
Var userID=document.getElementById('uid').value;
Var aadharno=document.getElementById('uaadhatNo').value;
Var userIDExp=/^([A-Z][A-Z a-z 0-9] {9} $/;
Var aadharIDExp=/^\d{4} \d{4} \d{4} $/;

If(userIDExp.test(userID))
```

## Examination Paper Analysis

---

```
{  
    Alert("Invalid userID, it should contain 10 alphanumeric character);  
}  
Else if(!aadharNoExp.test(aadharNo);  
{  
    Alert("Invalid aadharNo, It should be in the nnnn nnnn nnnn format);  
}  
Else  
{  
    Alert("valid user");  
}  
}  
</script>  
<form>  
<inpt id="aadhar no" type="text" placeholder="Enter your adhar no" required><br><br>  
<button onclick="Submitdata()">  
Submit</button>  
</form>  
</body>  
</html>
```

Q6 b. Write a script for creating following frame structure : Frame 1 contains three buttons SPORT, MUSIC and DANCE that will perform following action : When user clicks SPORT button, sport.html webpage will appear in Frame 2. When user clicks MUSIC button, music.html webpage will appear in Frame 3. When user clicks DANCE button, dance.html webpage will appear in Frame 4.

## Examination Paper Analysis

---

	FRAME 1	
SPORT	MUSIC	DANCE
FRAME 2	FRAME 3	FRAME 4

Ans:

```
<html>
<head>
<title> main frame</title>
</head>
<frameset rows="20%, 20%,60%">
<frameset cols="*, *, *">
<frame src="frame5.html">
<frame src="frame1.html">
<frame src="frame5.html">
</frameset>
<frame src="finalf.html">
<frameset cols="*, *, *">
<frame src="frame2.html">
<frame src="frame3.html">
<frame src="frame4.html">

</frameset>
</frameset>
</html>
```

Frame1.html

```
<html>
```

## Examination Paper Analysis

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```
<body>
<center><b>frame1
</body>
</html>
```

Frame2.html

```
<html>
<head>
<body>
Welcome to Sport Page
</body>
</html>
```

Frame3.html

```
<html>
<head>
<body>
Welcome to Music Page
</body>
</html>
```

Frame4.html

```
<html>
<head>
<body>
Welcome to Dance Page
</body>
</html>
```

Frame5.html

## Examination Paper Analysis

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```
<html>
<head>
<body>
</body>
</html>
```

Frame6.html

```
<html>
<head>
<body>
<button onclick="Frame2.html">Sport</button>
</body>
</html>
```

Frame7.html

```
<html>
<head>
<body>
<button onclick="Frame3.html">Sport</button>
</body>
</html>
```

Frame8.html

```
<html>
<head>
<body>
<button onclick="Frame4.html">Sport</button>
</body>
</html>
```

## Examination Paper Analysis

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Winter-2022	Unit 5	<p>Q3 d. Write a JavaScript function that will open new window when the user will clicks on the button.</p> <p>Ans:</p> <pre>&lt;html&gt; &lt;body&gt; &lt;button onclick="openWin()"&gt;Open "New Window"&lt;/button&gt; &lt;script&gt; var myWindow; function openWin() { myWindow = window.open("", "myWindow", "width=400,height=400"); myWindow.document.write("&lt;p&gt;Hello Everyone.Welcome to new window.&lt;/p&gt;"); } &lt;/script&gt; &lt;/body&gt; &lt;/html&gt;</pre> <p>Q4 a. Describe text Rollover with the help of example.</p> <p>Ans:</p> <p>Rollover means a webpage changes when the user moves his or her mouse over an object on the page. It is often used in advertising. There are two ways to create rollover, using plain HTML or using a mixture of JavaScript and HTML. We will demonstrate the creation of rollovers using both methods.</p> <p>The keyword that is used to create rollover is the <code>&lt;onmouseover&gt;</code> event.</p> <p>For example, we want to create a rollover text that appears in a text area. The text “What is rollover?” appears when the user place his or her mouse over the text area and the rollover text changes to “Rollover means a webpage changes when the user moves his or her mouse over an object on the page” when the user moves his or her mouse away from the text area.</p> <p>The HTML script is shown in the following example:</p> <p>Example:</p> <pre>&lt;html&gt; &lt;head&gt;&lt;/head&gt; &lt;Body&gt; &lt;textarea rows="2" cols="50" name="rollovertext" onmouseover="this.value='What is rollover?'" onmouseout="this.value='Rollover means a webpage changes when the user moves his or her mouse over an object on the page'"&gt;&lt;/textarea&gt; &lt;/body&gt; &lt;/html&gt;</pre>	<p>4 4 4 4 6</p>
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## Examination Paper Analysis

Q4 c. Describe Quantifiers with the help of example.

Ans:

The frequency or position of bracketed character sequences and single characters can be denoted by a special character. Each special character has a specific connotation.

The +, \*, ?, and \$ flags all follow a character sequence.

Sr.No	Expression & Description
1	p+ It matches any string containing one or more p's.
2	p* It matches any string containing zero or more p's.
3	p? It matches any string containing at most one p.(zero or one occurrences)
4	p{N} It matches any string containing a sequence of N p's
5	p{2,3} It matches any string containing a sequence of two or three p's.
6	p{2, } It matches any string containing a sequence of at least two p's.
7	p\$ It matches any string with p at the end of it.

Example:

```
<html>
<body>
<button onclick="myFunction()">Try it</button>
<p id="demo"></p>
<script>
function myFunction()
{
var str = "100, 1000 or 10000?";
var patt1 = /\d{3,4}/g;
var result = str.match(patt1);
document.getElementById("demo").innerHTML = result;
}
```

## Examination Paper Analysis

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	<pre>&lt;/script&gt; &lt;/body&gt; &lt;/html&gt;</pre> <p>Q4 d. Describe frameworks of JavaScript &amp; its application.</p> <p>Ans:</p> <p>Frameworks of JavaScript:</p> <p>1. ReactJs</p> <p>React is based on a reusable component. Simply put, these are code blocks that can be classified as either classes or functions. Each component represents a specific part of a page, such as a logo, a button, or an input box. The parameters they use are called props, which stands for properties.</p> <p>Applications:</p> <p>React is a JavaScript library developed by Facebook which, among other things, was used to build Instagram.com.</p> <p>2. Angular</p> <p>Google operates this framework and is designed to use it to develop a Single Page Application (SPA). This development framework is known primarily because it gives developers the best conditions to combine JavaScript with HTML and CSS. Google operates this framework and is designed to use it to develop a Single Page Application (SPA). This development framework is known primarily because it gives developers the best conditions to combine JavaScript with HTML and CSS.</p> <p>Applications:</p> <p>Microsoft Office ,Gmail, Forbes, PayPal, Grasshopper, Samsung, Delta</p> <p>3. Vue.js</p> <p>Vue is an open-source JavaScript framework for creating a creative UI. The integration with Vue in projects using other JavaScript libraries is simplified because it is designed to be adaptable.</p> <p>Application:</p> <p>VueJS is primarily used to build web interfaces and one-page applications. It can also be applied to both desktop and mobile app development.</p> <p>4. jQuery</p> <p>It is a cross-platform JavaScript library designed to simplify HTML client-side scripting. You can use the jQuery API to handle, animate, and manipulate an event in an HTML document, also known as DOM. Also, jQuery is used with Angular and React App building tools.</p> <p>Applications:</p> <p>JQuery can be used to develop Ajax based applications. 2. It can be used to make code simple, concise and reusable. 3. It simplifies the process of traversal of HTML DOM tree. 4. It can also handle events,</p>	
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## Examination Paper Analysis

perform animation and add ajax support in web applications.

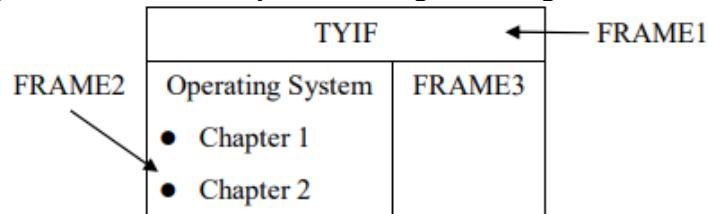
### 5. Node.js

Node.js is an open-source, server-side platform built on the Google Chrome JavaScript Engine. Node.js is an asynchronous, single-threaded, non-blocking I/O model that makes it lightweight and efficient.

Applications:

Paypal, LinkedIn, Yahoo, Mozilla, Netflix, Uber, Groupon, GoDaddy, eBay

Q5 c. Write a JavaScript for creating following frame structure :



Chapter 1 & Chapter 2 are linked to the webpage Ch1.html & Ch2.html respectively. When user click on these links corresponding data appears in FRAME3.

Ans:

Step 1) create file frame1.html

```
<html>
<body>
<h1 align="center">FRAME1</h1>
</body>
</html>
```

Step 2) create frame2.html

```
<html>
<head>
<title>FRAME 2</title>
</head>
<body><H1>Operating System</H1>
<a href="Ch1.html" target="c"><UL>Chapter 1</UL></a>
<br>
<a href=" Ch2.html" target="c"><UL> Chapter 2</UL></a>
</body>
</html>
```

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		<p>Step 3) create frame3.html</p> <pre>&lt;html&gt; &lt;body&gt; &lt;h1&gt;FRAME3&lt;/h1&gt; &lt;/body&gt; &lt;/html&gt;</pre> <p>Step4) create frame_target.html</p> <pre>&lt;html&gt; &lt;head&gt; &lt;title&gt;Create a Frame&lt;/title&gt; &lt;/head&gt; &lt;frameset rows="30%,*" border="1"&gt; &lt;frame src="frame1.html" name="a" /&gt; &lt;frameset cols="50%,*" border="1"&gt; &lt;frame src="frame2.html" name="b" /&gt; &lt;frame src="frame3.html" name="c" /&gt; &lt;/frameset&gt; &lt;/frameset&gt; &lt;/html&gt;</pre>	
Summer -2022	Unit 5	<p>Q3 d. State what is regular expression. Explain its meaning with the help of a suitable example.</p> <p>Ans:</p> <p>A regular expression is an object that describes a pattern of characters.</p> <p>The JavaScript RegExp class represents regular expressions, and both String and RegExp define methods that use regular expressions to perform powerful pattern-matching and search-and-replace functions on text.</p> <p>A Regular Expression is a sequence of characters that constructs a search pattern. When you search for data in a text, you can use this search pattern to describe what you are looking for.</p> <p>Syntax:</p> <p>A regular expression is defined with the RegExp () constructor as:</p> <pre>var pattern = new RegExp(pattern, attributes);</pre>	4 4 4 6

## Examination Paper Analysis

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	<p>or simply</p> <pre>var pattern = /[pattern]/attributes;</pre> <p>Here,</p> <ul style="list-style-type: none"><li>• Pattern – A string that specifies the pattern of the regular expression or another regular expression.</li><li>• Attributes – An optional string containing attributes that specify global, case-insensitive, and multi-line matches.</li></ul> <p>Example:</p> <pre>&lt;html&gt; &lt;body&gt; &lt;script&gt; //validating mobile number function validatePhone(num) {      // regex pattern for phone number     var re =/\d{10}\$/;      // check if the phone number is valid     var result = num.match(re);     if (result) {         document.write('The number is valid.');     } } // take input var number = prompt('Enter a 10 digit mob number '); validatePhone(number); &lt;/script&gt; &lt;/body&gt; &lt;/html&gt;</pre> <p>Q4 c. Write a JavaScript program to validate email ID of the user using regular expression. Ans: &lt;html&gt;</p>	
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## Examination Paper Analysis

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```
<head>
<title>JavaScript Regular expression to valid an email address</title>
</head>
<body>
<script>
function valid_email(str)
{
var mailformat = /^[^\w+([.-]?\w+)*@\w+([.-]?\w+)*(\.\w{2,3})+$/;
if(mailformat.test(str))
{
alert("Valid email address!");
}
else
{
alert("You have entered an invalid email address!");
}
}
valid_email('yogita.khandagale@gmail.com');
</script>
</body>
</html>
```

Q4 d. Write a JavaScript program to design HTML page with books information in tabular format, use rollovers to display the discount information.

Ans:

```
<html>
<head>
<title>
table rollovers</title>
<script>
function open_new_window(clrname)
{
if(clrname==1)
{
document.clr.src="c.jpg";
```

## Examination Paper Analysis

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```
mwin=window.open("",'myadwin','height=50,width=50,left=500,top=200');
mwin.document.write("Discount is 50%");
}
if(clrname==2)
{
document.clr.src="java.jpg";
mwin=window.open("",'myadwin','height=50,width=50,left=500,top=200');
mwin.document.write("Discount is 40%");
}

if(clrname==3)
{
document.clr.src="p.jpg";
mwin=window.open("",'myadwin','height=100,width=150,left=500,top=200');
mwin.document.write("Discount is 20%");
}
}
</script>
</head>
<body>
<table border="1" width="100%">
<tbody>
<tr>
<td width="50%">
<a></td>
<td><H2>
<a onmouseover="open_new_window(1)" onmouseout="mwin.close()">
<b><u>Programming in C</u></b></a>
<br><br>
<a onmouseover="open_new_window(2)" onmouseout="mwin.close()">
<b><u>Java</u></b></a>
<br><br>
<a onmouseover="open_new_window(3)" onmouseout="mwin.close()">
<b><u>Python</u></b></a>
</H2>
```

## Examination Paper Analysis

---

```
</td>
</tr>
</tbody>
</table>
</body>
</html>
```

Q6 b. Write a JavaScript to create option list containing list of images and then display images in new window as per selection.

Ans:

```
<html>
<body>
    <label for="contries">Choose a Country:</label>
    <select name="contries" id="contries" class="select" onchange="changecontry()">
        <option value="india">India</option>
        <option value="japan">Japan</option>
        <option value="usa">USA</option>
    </select>

    <script>
changecontry= () => {
    var contries = document.getElementById("contries").value;
    switch(contries)
    {
        case "india":
            var myWindow=window.open("i.png","MsgWindow", "width=200,height=100");
            break;
        case "japan":
            var myWindow=window.open("j.png","MsgWindow", "width=200,height=100");
            break;
        case "usa":
            var myWindow=window.open("u.png","MsgWindow", "width=200,height=100");
            break;
        default:
```

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		<pre>/*document.getElementById("city-name").innerHTML = "Nill"; document.getElementById("city-description").innerHTML = "Nill"; document.getElementById("city-image").src = "";*/ break; } }&lt;/script&gt; &lt;/body&gt; &lt;/html&gt;</pre>	
Summer -2023	Unit 6	<p>Q4 b. List Ways of protecting your web page and describe any one of them.</p> <p>Ans:</p> <p>There is nothing secret about your web page. Anyone with a little computer knowledge can use a few mouse clicks to display your HTML code, including your JavaScript, on the screen.</p> <p>Following are the ways to protect web pages:</p> <p>1) Hiding Your Code by disabling Right Mouse Click:</p> <p>The following example shows you how to disable the visitor's right mouse button while the browser displays your web page. All the action occurs in the JavaScript that is defined in the &lt;head&gt; tag of the web page.</p> <div style="border: 1px solid black; padding: 10px;"><pre>&lt;html&gt; &lt;head&gt; &lt;script&gt; window.onload = function() { document.addEventListener("contextmenu", function(e) { e.preventDefault(); }, false); &lt;/script&gt; &lt;body&gt; &lt;h3&gt;Right click on screen, Context Menu is disabled&lt;/h3&gt; &lt;/body&gt; &lt;/html&gt;</pre></div>	4 4 4 6

## Examination Paper Analysis

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The `preventDefault()` method cancels the event if it is cancelable, meaning that the default action that belongs to the event will not occur.

For example, this can be useful when:

- Clicking on a "Submit" button, prevent it from submitting a form
- Clicking on a link, prevent the link from following the URL

### 2) Hiding JavaScript

You can hide your JavaScript from a visitor by storing it in an external file on your web server. The external file should have the `.js` file extension. The browser then calls the external file whenever the browser encounters a JavaScript element in the web page. If you look at the source code for the web page, you'll see reference to the external `.js` file, but you won't see the source code for the JavaScript.

```
webpage.html
<html>
<head>
<script src="mycode.js" languages="javascript" type="text/javascript">
</script>
<body>
<h3> Right Click on screen, Context Menu is disabled</h3>
</body>
</html>
mycode.js
window.onload=function()
{
document.addEventListener("contextmenu", function(e)
{
e.preventDefault();
}, false);
}
```

## Examination Paper Analysis

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### 3) Concealing Your E-mail Address

- To conceal an e-mail address, you need to create strings that contain part of the e-mail address and then build a JavaScript that assembles those strings into the e-mail address, which is then written to the web page.
- The following example illustrates one of many ways to conceal an e-mail address.
- It also shows you how to write the subject line of the e-mail. We begin by creating four strings:
  - The first string contains the addressee and the domain along with symbols &, \*, and \_ (underscore) to confuse the bot.
  - The second and third strings contain portions of the mailto: attribute name. Remember that the bot is likely looking for mailto:
  - The fourth string contains the subject line. As you'll recall from your HTML training, you can generate the TO, CC, BCC, subject, and body of an e-mail from within a web page.
- You then use these four strings to build the e-mail address. This process starts by using the replace() method of the string object to replace the & with the @ sign and the \* with a period (.). The underscores are replaced with nothing, which is the same as simply removing the underscores from the string.

```
<html>
<head>
<title>Conceal Email Address</title>
<script>

function CreateEmailAddress()
{
var x = 'abcxyz*c_o_m'
var y = 'mai'
var z = 'lto'
var s = '?subject=Customer Inquiry'
x = x.replace('&','@')
x = x.replace('*','.')
x = x.replace('_','')
x = x.replace('__','')
```

## Examination Paper Analysis

---

```
var b = y + z +':'+ x + s  
window.location=b;  
}  
  
</script>  
</head>  
<body>  
<input type="button" value="send" onclick="CreateEmailAddress()">  
</body>  
</html>
```

Q4 c. Explain how to create and display Rotating Banner in JavaScript with example.

Ans:

Following steps must be follow for creating banner in javascript:

1. Load banner advertisements into an array.
2. Determine whether the browser supports the image object.
3. Display a banner advertisement.
4. Pause before displaying the next banner advertisement.

Example:

```
<html >  
<head>  
<title>Banner Ads</title>  
<script>  
Banners = new Array('1.jpg','2.jpg','3.jpg');  
CurrentBanner = 0;  
function DisplayBanners()  
{  
if (document.images);  
{  
CurrentBanner++;  
if (CurrentBanner == Banners.length)  
{
```

## Examination Paper Analysis

---

```
CurrentBanner = 0;
}
document.RotateBanner.src= Banners[CurrentBanner];
setTimeout("DisplayBanners()",1000);
}
}
</script>
</head>
<body onload="DisplayBanners()" >
<center>

</center>
</body>
</html>
```

Q4 e. What is Status bar and how to display moving message on the status line of a window using JavaScript.

Ans:

To set the text in the status bar at the bottom of the browser window. The HTML standards now requires setting window.status to have no effect on the text displayed in the status bar.

```
<script>
Var scrollpos=0
Var maxscroll=100;
Var blank="" "
Function scrollText(text,milliseconds)
{
Window.setInterval("displayText("+text+");milliseconds)
}
Function displayText(text)
{
Window.defaultStatus=blanks+text++scrollpos
Blanks+=" "
If(scrollpos>maxscroll)
{
```

## Examination Paper Analysis

---

```
Scrollpos=0  
Blanks=""  
}  
</script>
```

Q6 c. Write a JavaScript to create a pull - down menu with four options [AICTE, DTE, MSBTE, GOOGLE]. Once the user will select one of the options then user will be redirected to that site.

Ans:

```
<html>  
<head>  
<title>HTML Form</title>  
<script language="javascript" type="text/javascript">  
function getPage(choice)  
{  
page=choice.options[choice.selectedIndex].value;  
if(page != "")  
{  
window.location=page;  
}  
}  
</script>  
</head>  
<body>  
<form name="myform" action="" method="post">  
Select Your Favourite Website:  
<select name="MenuChoice" onchange="getPage(this)">  
<option  
value="https://www.google.com">Google</option>  
<option  
value="https://www.msbte.org.in">MSBTE</option>  
<option  
value="https://www.aicte-india.org/">AICTE</option>  
<option  
value="https://poly23.dtemaharashtra.gov.in/diploma23/">DTE</option>
```

## Examination Paper Analysis

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		</form> </body> </html>	
Winter-2022	Unit 6	<p>Q4 b. Write a JavaScript program that will create pull-down menu with three options. Once the user will select the one of the options then user will redirected to that website.</p> <p>Ans:</p> <pre>&lt;html&gt; &lt;head&gt; &lt;title&gt;HTML Form&lt;/title&gt; &lt;script language="javascript" type="text/javascript"&gt; function getPage(choice) { page=choice.options[choice.selectedIndex].value; if(page != "") { window.location=page; } } &lt;/script&gt; &lt;/head&gt; &lt;body&gt; &lt;form name="myform" action="" method="post"&gt; Select Your Favourite Website: &lt;select name="MenuChoice" onchange="getPage(this)"&gt; &lt;option value="select any option"&gt;Select&lt;/option&gt; &lt;option value="https://www.codecademy.com/catalog/language/javascript/"&gt; CodeAcademy &lt;/option&gt; &lt;option value="https://www.msbte.org.in"&gt;MSBTE&lt;/option&gt; &lt;option value="https://www.javatpoint.com/javascript-tutorial"&gt;JavaTpoint&lt;/option&gt; &lt;/form&gt; &lt;/body&gt; &lt;/html&gt;</pre> <p>Q4 e. Describe how to link banner advertisement to URL with example.</p> <p>Ans:</p>	4 4 6 6

## Examination Paper Analysis

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The banner advertisement is the hallmark of every commercial web page. It is typically positioned near the top of the web page, and its purpose is to get the visitor's attention by doing all sorts of clever things. To get additional information, the visitor is expected to click the banner so that a new web page opens. You can link a banner advertisement to a web page by inserting a hyperlink into your web page that calls a JavaScript function rather than the URL of a web page. The JavaScript then determines the URL that is associated with the current banner and loads the web page that is associated with the URL.

Example:

```
<html>
<head>
<title>Link Banner Ads</title>
<script language="Javascript" type="text/javascript">
Banners = new Array('1.jpg','2.jpg','3.jpg')
BannerLink = new Array(
'google.com/','vpt.edu.in/','msbte.org.in/');
CurrentBanner = 0;
NumOfBanners = Banners.length;
function LinkBanner()
{
document.location.href =
"http://www." + BannerLink[CurrentBanner];
}
function DisplayBanners() {
if (document.images) {
CurrentBanner++
if (CurrentBanner == NumOfBanners) {
CurrentBanner = 0
}
document.RotateBanner.src= Banners[CurrentBanner]
setTimeout("DisplayBanners()",1000)
}
}
</script>
</head>
<body onload="DisplayBanners()" >
<center>
```

## Examination Paper Analysis

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```
<a href="javascript: LinkBanner()"></a>
</center>
</body> </html>
```

Q6 b. Develop a JavaScript program to create Rotating Banner Ads.

Ans:

```
<html >
<head>
<title>Banner Ads</title>
<script>
Banners = new Array('1.jpg','2.jpg','3.jpg');
CurrentBanner = 0;
function DisplayBanners()
{
if (document.images);
{
CurrentBanner++;
if (CurrentBanner == Banners.length)
{
CurrentBanner = 0;
}
document.RotateBanner.src= Banners[CurrentBanner];
setTimeout("DisplayBanners()",1000);
}
}
</script>
</head>
<body onload="DisplayBanners()" >
<center>
```

```

</center>
</body>
</html>
```

Q6 c. Write a JavaScript for the folding tree menu.

## Examination Paper Analysis

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		<p>Ans:</p> <pre>&lt;html&gt; &lt;head&gt; &lt;style&gt; ul, #myUL { list-style-type: none; } .caret::before { content: "\25B6"; color: black; display: inline-block; margin-right: 6px; } .caret-down::before { -ms-transform: rotate(90deg); /* IE 9 */ -webkit-transform: rotate(90deg); /* Safari */ transform: rotate(90deg); } .nested { display: none; } .active { display: block; } &lt;/style&gt; &lt;/head&gt; &lt;body&gt; &lt;h2&gt;Folding Tree Menu&lt;/h2&gt; &lt;p&gt;A tree menu represents a hierarchical view of information, where each item can have a number of subitems.&lt;/p&gt; &lt;p&gt;Click on the arrow(s) to open or close the tree branches.&lt;/p&gt; &lt;ul id="myUL"&gt; &lt;li&gt;&lt;span class="caret"&gt;India&lt;/span&gt; &lt;ul class="nested"&gt; &lt;li&gt;Karnataka&lt;/li&gt;</pre>	
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## Examination Paper Analysis

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		<pre> &lt;li&gt;Tamilnaadu&lt;/li&gt; &lt;li&gt;&lt;span class="caret"&gt;Maharashtra&lt;/span&gt; &lt;ul class="nested"&gt; &lt;li&gt;Mumbai&lt;/li&gt; &lt;li&gt;Pune&lt;/li&gt; &lt;li&gt;&lt;span class="caret"&gt;Navi Mumbai&lt;/span&gt; &lt;ul class="nested"&gt; &lt;li&gt;Nerul&lt;/li&gt; &lt;li&gt;Vashi&lt;/li&gt; &lt;li&gt;Panvel&lt;/li&gt; &lt;/ul&gt; &lt;/li&gt; &lt;/ul&gt; &lt;/li&gt; &lt;/ul&gt; &lt;/li&gt; &lt;/ul&gt; &lt;script&gt; var toggler = document.getElementsByClassName("caret"); var i; for (i = 0; i &lt; toggler.length; i++) { toggler[i].addEventListener("click", function() { this.parentElement.querySelector(".nested").classList.toggle("active"); this.classList.toggle("caret-down"); }); } &lt;/script&gt; &lt;/body&gt; &lt;/html&gt; </pre>	
Summer -2022	Unit 6	<p>Q1 f. Explain frame works of JavaScript and its application.</p> <p>Ans:</p> <p>JavaScript frameworks are a type of tool that makes working with JavaScript easier and smoother.</p> <ol style="list-style-type: none"> <li>1) Angular</li> <li>2) React</li> <li>3) Vue.js</li> </ol>	2 4 6 6

## Examination Paper Analysis

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4) Node.js  
5) Backbone.js

Q3 b. Write a JavaScript program to link banner advertisements to different URLs.

Ans:

```
<html>
<head>
<title>Link Banner Ads</title>
<script language="Javascript" type="text/javascript">

Banners = new Array('y.jpg','yy.jpg','yyy.jpg')
BannerLink = new Array(
'google.com/','vpt.edu.in/','msbte.org.in/');
CurrentBanner = 0;
NumOfBanners = Banners.length;
function LinkBanner(){
document.location.href =
"http://www." + BannerLink[CurrentBanner];
}
function DisplayBanners()
{
if (document.images)
{
CurrentBanner++;
if (CurrentBanner == NumOfBanners)
{
CurrentBanner = 0;
}
document.RotateBanner.src= Banners[CurrentBanner];
setTimeout("DisplayBanners()",1000);
}
}
</script>
</head>
```

## Examination Paper Analysis

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```
<body onload="DisplayBanners();">
<center>
<a href="javascript: LinkBanner()">
</a>
</center>
</body>
</html>
```

Q4 e. List ways of protecting your webpage and describe any one of them.

Ans:

There is nothing secret about your web page. Anyone with a little computer knowledge can use a few mouse clicks to display your HTML code, including your JavaScript, on the screen.

Following are the ways to protect web pages:

1) Hiding Your Code by disabling Right Mouse Click:

The following example shows you how to disable the visitor's right mouse button while the browser displays your web page. All the action occurs in the JavaScript that is defined in the <head> tag of the web page.

```
<html>
<head>
<script>
window.onload = function()
{
document.addEventListener("contextmenu", function(e)
{
e.preventDefault();
}, false);
</script>
<body>
<h3>Right click on screen, Context Menu is disabled</h3>
</body>
</html>
```

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The preventDefault() method cancels the event if it is cancelable, meaning that the default action that belongs to the event will not occur.

For example, this can be useful when:

- Clicking on a "Submit" button, prevent it from submitting a form
- Clicking on a link, prevent the link from following the URL

### 2) Hiding JavaScript

You can hide your JavaScript from a visitor by storing it in an external file on your web server. The external file should have the .js file extension. The browser then calls the external file whenever the browser encounters a JavaScript element in the web page. If you look at the source code for the web page, you'll see reference to the external .js file, but you won't see the source code for the JavaScript.

```
webpage.html
<html>
<head>
<script src="mycode.js" languages="javascript" type="text/javascript">
</script>
<body>
<h3> Right Click on screen, Context Menu is disabled</h3>
</body>
</html>
mycode.js
window.onload=function()
{
document.addEventListener("contextmenu", function(e)
{
e.preventDefault();
}, false);
}
```

## Examination Paper Analysis

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### 3) Concealing Your E-mail Address

- To conceal an e-mail address, you need to create strings that contain part of the e-mail address and then build a JavaScript that assembles those strings into the e-mail address, which is then written to the web page.
- The following example illustrates one of many ways to conceal an e-mail address.
- It also shows you how to write the subject line of the e-mail. We begin by creating four strings:
  - The first string contains the addressee and the domain along with symbols &, \*, and \_ (underscore) to confuse the bot.
  - The second and third strings contain portions of the mailto: attribute name. Remember that the bot is likely looking for mailto:
  - The fourth string contains the subject line. As you'll recall from your HTML training, you can generate the TO, CC, BCC, subject, and body of an e-mail from within a web page.
- You then use these four strings to build the e-mail address. This process starts by using the replace() method of the string object to replace the & with the @ sign and the \* with a period (.). The underscores are replaced with nothing, which is the same as simply removing the underscores from the string.

```
<html>
<head>
<title>Conceal Email Address</title>
<script>

function CreateEmailAddress()
{
var x = 'abcxyz*c_o_m'
var y = 'mai'
var z = 'lto'
var s = '?subject=Customer Inquiry'
x = x.replace('&','@')
x = x.replace('*','.')
x = x.replace('_','')
x = x.replace('_','')
var b = y + z + ':' + x + s
```

## Examination Paper Analysis

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```
window.location=b;  
}  
  
</script>  
</head>  
<body>  
<input type="button" value="send" onclick="CreateEmailAddress()">  
</body>  
</html>
```

Q5 c. Write a JavaScript program to create a slide show with the group of six images, also simulate the next and previous transition between slides in your JavaScript.

Ans:

```
<html>  
<title>slideshow</title>  
<body>  
<h2 class="w3-center">Manual Slideshow</h2>  
<div class="w3">  
    
    
    
    
    
    
  
  <button class="aa" onclick="plusDivs(-1)">Back</button>  
  <button class="bb" onclick="plusDivs(1)">Forward</button>  
</div>  
  
<script>  
var slideIndex = 1;  
showDivs(slideIndex);
```

## Examination Paper Analysis

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```
function plusDivs(n)
{
    showDivs(slideIndex += n);
}

function showDivs(n)
{
    var i;
    var x = document.getElementsByClassName("mySlides");
    if (n > x.length)
    {
        slideIndex = 1
    }

    if (n < 1)
    {
        slideIndex = x.length
    }
    for (i = 0; i < x.length; i++)
    {
        x[i].style.display = "none";
    }
    x[slideIndex-1].style.display = "block";
}
</script>
</body>
</html>
```