

EXPERIMENT NO. - 01

REVISED ON: 18/07/2022

CLASS: B. E.

Subject: JavaScript (Elective-3c)

SEMESTER: I

TITLE	Calculation of area of Geometric Figures using JavaScript
PROBLEM STATEMENT	Calculate area of triangle, area of rectangle and area of circle using JavaScript.
OBJECTIVE	To learn the syntax and semantics of Java script & understand the data types and variables & functions in Java script.
SOFTWARE USED	Notepad, Any Browser, Vscode.
REFERENCES	1) Thomas Powell and Fritz Schneider, “JavaScript 2.0: The Complete Reference”, 2 nd Edition, McGraw Hill 2) Jon Duckett, “JavaScript & J Query: Interactive Front-End Web Development”, John Wiley & Sons.
ALGORITHM	1) To calculate the Area given shapes, accept the required parameters as a input from the user. 2) Write a javaScript containing functions to calculate the area of Triangle, Rectangle and Circle using VsCode. Use Semiperimeter formula to calculate area of triangle. 3) Write Script for given problem statement using notepad utility and save the script file with .html extension. 4) Run the .html file in the browser for observing output.
INSTRUCTIONS FOR WRITING JOURNAL	<div style="display: flex; justify-content: space-between;"> <div> 1) Aim 3) Theory 5) Code & output </div> <div> 2) Softwares used 4) Algorithm 6) Conclusion </div> </div>

Mrs. M. J. Sagade
Course Coordinator

Dr. M. V. Munot
HoD, Dept. of E&TE



EXPERIMENT NO. - 02

REVISED ON: 18/07/2022

CLASS: B. E.

Subject: JavaScript (Elective-3c)

SEMESTER: I

TITLE	Multiplication table of a given number using JavaScript
PROBLEM STATEMENT	Generate the multiplication table of a given number using JavaScript.
OBJECTIVE	To learn the syntax and semantics of Java script & understand the data types and variables & functions in Java script.
SOFTWARE USED	Notepad, Any Browser, Vscode.
REFERENCES	1) Thomas Powell and Fritz Schneider, "JavaScript 2.0: The Complete Reference", 2 nd Edition, McGraw Hill 2) Jon Duckett, "JavaScript & J Query: Interactive Front-End Web Development", John Wiley & Sons.
ALGORITHM	1) Take a input from user using input Box using button click event. 2) Use For loop to print the multiplication table in HTML page. 3) Repeat using While & Do-While loop.
INSTRUCTIONS FOR WRITING JOURNAL	1) Aim 2) Softwares used 3) Theory 4) Algorithm 5) Code & output 6) Conclusion

Mrs. M. J. Sagade
Course Coordinator

Dr. M. V. Munot
HoD, Dept. of E&TE



EXPERIMENT NO. - 03

REVISED ON: 18/07/2022

CLASS: B. E.

Subject: JavaScript (Elective-3c)

SEMESTER: I

TITLE	Perform different string operations.
PROBLEM STATEMENT	Perform following operations on a given string, i) Reverse string ii) Replace characters of a string iii) String is Palindrome.
OBJECTIVE	To learn different string methods & perform string manipulation using the same.
SOFTWARE USED	Notepad, Any Browser, Nodejs, VSCODE.
REFERENCES	1) Thomas Powell and Fritz Schneider, "JavaScript 2.0: The Complete Reference", 2 nd Edition, McGraw Hill 2) Jon Duckett, "JavaScript & J Query: Interactive Front-End Web Development", John Wiley & Sons.
ALGORITHM	1) Accept 1st parameter as string length & Second parameter as an input field to accept characters to be replaced & use standard string methods to perform the given first two tasks. 2) Accept third parameter to input a string to be checked for palindrome using button click event. 3) perform all above task without using standard string methods also.
INSTRUCTIONS FOR WRITING JOURNAL	1) Aim 2) Softwares used 3) Theory 4) Algorithm 5) Code & output 6) Conclusion

Mrs. M. J. Sagade
Course Coordinator

Dr. M. V. Munot
HoD, Dept. of E&TE



EXPERIMENT NO. - 04

REVISED ON: 18/07/2022

Subject: JavaScript (Elective-3c)

SEMESTER: I

Mrs. M. J. Sagade
Course Coordinator

Dr. M. V. Munot
HoD, Dept. of E&TE



EXPERIMENT NO. - 05

REVISED ON: 18/07/2022

CLASS: B. E.

Subject: JavaScript (Elective-3c)

SEMESTER: I

TITLE	Countdown timer using JavaScript
PROBLEM STATEMENT	Create a countdown timer using JavaScript.
OBJECTIVE	To understand & use concepts of Data types and Objects in JavaScript to write scripts of Timer operations
SOFTWARE USED	Notepad, Any Browser, Nodejs, VSCODE.
REFERENCES	1) Thomas Powell and Fritz Schneider, "JavaScript 2.0: The Complete Reference", 2 nd Edition, McGraw Hill 2) Jon Duckett, "JavaScript & J Query: Interactive Front-End Web Development", John Wiley & Sons.
ALGORITHM	1) Set a Valid End Date: The Valid end date and time should be a string in any of the formats understood by JavaScript's Date.parse() method. 2) Calculate Remaining Time: First, we calculate the time remaining by subtracting the deadline by current date and time then we calculate the number of days, hours, minutes and seconds. The Math.floor() function is used to return the largest integer less than or equal to a given number. 3) Output the result: In the code, output the result by some id. 4) Write some text if the countdown is over: If the countdown timer is over then "expired" will be displayed on the screen.
INSTRUCTIONS FOR WRITING JOURNAL	1) Aim 2) Softwares used 3) Theory 4) Algorithm 5) Code & output 6) Conclusion

Mrs. M. J. Sagade
Course Coordinator

Dr. M. V. Munot
HoD, Dept. of E&TE



EXPERIMENT NO. - 06

REVISED ON: 18/07/2022

CLASS: B. E.

Subject: JavaScript (Elective-3c)

SEMESTER: I

TITLE	Perform different array operations using javaScript.
PROBLEM STATEMENT	Create an array and perform following operations i. To remove specific element from the array ii. Check if an array contains a specified value. iii. To empty an array.
OBJECTIVE	To learn the syntax and semantics of Standard array methods in java script & use them to perform given task.
SOFTWARE USED	Notepad, Any Browser, Nodejs, VSCODE.
REFERENCES	1) Thomas Powell and Fritz Schneider, "JavaScript 2.0: The Complete Reference", 2nd Edition, McGraw Hill 2) Jon Duckett, "JavaScript & J Query: Interactive Front-End Web Development", John Wiley & Sons.
ALGORITHM	1) Accept 1st parameter as array length & Secondparameter as an input field to accept element to be deleted & Third parameter as an input field to accept a value is present in array or not. 2) Use a button click event to empty the given array. 3) perform all above task using standard array methods & without using standard array methods.
INSTRUCTIONS FOR WRITING JOURNAL	1) Aim 2) Softwares used 3) Theory 4) Algorithm 5) Code & output 6) Conclusion

Mrs. M. J. Sagade
Course Coordinator

Dr. M. V. Munot
HoD, Dept. of E&TE



EXPERIMENT NO. - 07

REVISED ON: 18/07/2022

CLASS: B. E.

Subject: JavaScript (Elective-3c)

SEMESTER: I

TITLE

Concept of Arrays & array objects in JavaScript.

PROBLEM STATEMENT

Append an object to an array and will check if an object is an array.

OBJECTIVE

To illustrate the concepts of array operations and array objects using JavaScript.

SOFTWARE USED

Notepad, Any Browser, Nodejs, VSCODE.

REFERENCES

- 1) Thomas Powell and Fritz Schneider, “JavaScript 2.0: The Complete Reference”, 2nd Edition, McGraw Hill
- 2) Jon Duckett, “JavaScript & J Query: Interactive Front-End Web Development”, John Wiley & Sons.

ALGORITHM

- 1) The `isArray()` method checks whether the passed argument is an array or not.
- 2) Step 1: Accept the size of the array from user.
- 3) Step 2: Create the array of specified size by user using standard methods.
- 4) Step 3: Append an object to an existing array using standard array methods.
- 5) Step 4: Check whether appended object is an array.
- 6) Make use of required methods of Array Objects such as `Push()`/`Pop()`/`Shift()`/`Unshift()` and `isArray()` in Correct manner.

INSTRUCTIONS FOR WRITING JOURNAL

- 1) Aim
- 2) Softwares used
- 3) Theory
- 4) Algorithm
- 5) Code & output
- 6) Conclusion

Mrs. M. J. Sagade
Course Coordinator

Dr. M. V. Munot
HoD, Dept. of E&TE



EXPERIMENT NO. - 08

REVISED ON: 18/07/2022

CLASS: B. E.

Subject: JavaScript (Elective-3c)

SEMESTER: I

TITLE	Changing Home page background color.
PROBLEM STATEMENT	Create a Home page of any website and change background color using i) On mouse over event ii) On focus event
OBJECTIVE	To develop simple JavaScript applications by using understanding of event handlers
SOFTWARE USED	Notepad, Any Browser, Nodejs, VSCODE.
REFERENCES	1) Thomas Powell and Fritz Schneider, "JavaScript 2.0: The Complete Reference", 2nd Edition, McGraw Hill 2) Jon Duckett, "JavaScript & J Query: Interactive Front-End Web Development", John Wiley & Sons.
ALGORITHM	1) On mouse over event: You can easily change the background color of a webpage i.e. the <body> element or any other element dynamically by using its style property. The style property is used to get as well as set the inline style of an element. Typically, any HTML element that supports the style attribute also has a style property. To change the background color, use the HTML DOM backgroundColor property. i. Create an HTML element with an ID. ii. Add some CSS style to give it a height and width as well as the background color. iii. Now if we run the code, we will be able to see a rectangle with some specified background color. There will be no change occurring in background color if we mouse over. iv. First, we use the mouseover event to change the background color. v. Now we are ready to run our code. Let's see how it works if we test it on our browser. 2) On focus event: The focus event gets fired once the element has received focus. The most common job is to change the background color of the HTML element on focus. It belongs to the FocusEvent interface, which inherits all the properties and methods from the UIEvent interface. We can handle this event using an onfocus event handler.
INSTRUCTIONS FOR WRITING JOURNAL	1) Aim 2) Softwares used 3) Theory 4) Algorithm 5) Code & output 6) Conclusion

Mrs. M. J. Sagade
Course Coordinator

Dr. M. V. Munot
HoD, Dept. of E&TE



EXPERIMENT NO. - 09

REVISED ON: 18/07/2022

CLASS: B. E.

Subject: JavaScript (Elective-3c)

SEMESTER: I

TITLE	Design student information Form
PROBLEM STATEMENT	Create a student information Form to accept information like Name, Address, City, State Gender, Mobile Number, and email id. Perform validations for- a) Correct names b) Mobile names c) Email id d) If no entered value e) Re-display for wrongly entered values with message f) Congratulation and welcome page upon successful entries..
OBJECTIVE	To learn the document object model, event handling in Java script & data validation.
SOFTWARE USED	Notepad, Any Browser, Nodejs, VSCODE.
REFERENCES	1) Thomas Powell and Fritz Schneider, "JavaScript 2.0: The Complete Reference", 2 nd Edition, McGraw Hill 2) Jon Duckett, "JavaScript & J Query: Interactive Front-End Web Development", John Wiley & Sons.
ALGORITHM	1) Create 2 files one for html, other of JS and source the JS file in html page. 2) The html will have 6 sections/div.'s, for each of above task respectively and 1 submit button. 3) Make use of prompt() method wherever needed. 4) Take care of all kinds of data validations for each of the task/field given.
INSTRUCTIONS FOR WRITING JOURNAL	1) Aim 2) Softwares used 3) Theory 4) Algorithm 5) Code & output 6) Conclusion

Mrs. M. J. Sagade
Course Coordinator

Dr. M. V. Munot
HoD, Dept. of E&TE



EXPERIMENT NO. - 10

CLASS: B. E.

Subject: JavaScript (Elective-3c)

EMESTER: I

TITLE	Multiplication table of a given number using JavaScript using CLI (Command Line Interface)	
PROBLEM STATEMENT	Generate the multiplication table of a given number using JavaScript using CLI	
OBJECTIVE	To learn use of Command line interface to execute .js files and the syntax and semantics of Java script & understand the data types and variables & functions in Java script.	
SOFTWARE USED	Notepad, Any Browser, Vscode.	
REFERENCES	1) Thomas Powell and Fritz Schneider, "JavaScript 2.0: The Complete Reference", 2 nd Edition, McGraw Hill 2) Jon Duckett, "JavaScript & J Query: Interactive Front-End Web Development", John Wiley & Sons.	
ALGORITHM	1) Take a input from user using input Box. 2) Use For loop to print the multiplication table in HTML page using button click event. 3) Repeat using While & Do-While loop. 4) open vscode, go to extensions and type "Code Runner" install it. make sure its from Jun Han 5) open terminal in vscode and execute the command "npm install prompt-sync" 6) go to file >> preferences >> settings. Then type in search "run in terminal" scoll down and look for Code-Runner: run in terminal select the check box and close the setting. 7) Directly run the code in vscode or on terminal execute command node filename.js	
INSTRUCTIONS FOR WRITING JOURNAL	1) Aim 3) Theory 5) Code & output	2) Softwares used 4) Algorithm 6) Conclusion

Dr. M. V. Munot
HoD, Dept. of E&TE