

Branch Name:	BCA (Bachelor of Computer Applications)
Program Code:	CA
Course Title :	Web Designing – II
Course Code :	24-DSE204-2C
Pre-requisite Course:	Basic knowledge of HTML and CSS.

Course Objective: (CO)

This course is intended to make the students:

- To develop dynamic web pages using JavaScript.
- To understand client-side scripting in simple way.
- To introduce modern UI development using React.
- To build simple, practical, real-life web applications.
- To improve problem-solving and logical thinking skills.

Teaching and Examination Scheme:

Teaching Scheme(Hours per week)				Evaluation Scheme (Marks)								
Lecture (L)	Tutorial (T)	Practical (P)	Credit	Theory				Practical				Total
				University Assessment		Continuous Assessment		University Assessment		Continuous Assessment		
				Min. Marks	Max. Marks	Min. Marks	Max. Marks	Min. Marks	Max. Marks	Min. Marks	Max. Marks	
2	-	2	3	09	25	09	25	-	-	09	25	75

Course Content:

Sr. No	Topic	Total Hours	Weight (%)
1.	JavaScript Basics • Introduction to JavaScript, history of JavaScript • Adding JavaScript to HTML (inline, internal, external) • Variables (var, let, const) • Data types, Operators, Expressions • Input/Output: alert(), prompt(), console.log()	12	25
2.	Control Statements & Functions • Conditional Statements (if, if-else, switch) • Loops (for, while) • Functions (simple and reusable) • Arrays: creation, methods, iteration • Objects: creating, properties, methods	12	25
3.	DOM & Form Validation • Introduction to DOM (Document Object Model) • Selecting elements (getElementById, getElementsByName) • Changing content (innerHTML, style) • Event handling • Form validation • Dynamic content (show/hide elements)	10	25
4.	Introduction to React JS • What is React? Why React? • Setting up React environment (using create-react-app) • React Components: Functional & Class components • JSX syntax • Props and passing data between components • State and lifecycle methods • Event handling in React • Conditional rendering and lists rendering	10	25

Course Learning Outcomes (CLO.):

At the end of this course, the student would be able

1. **CLO1:** Understand fundamental concepts of JavaScript including variables, data types, and operators.
2. **CLO2:** Apply control statements, functions, arrays, and objects to develop logical JavaScript programs.
3. **CLO3:** Manipulate web pages dynamically using DOM methods and event handling.
4. **CLO4:** Develop and validate web forms using JavaScript techniques.
5. **CLO5:** Understand and implement component-based development using React.
6. **CLO6:** Design simple interactive and dynamic web applications using JavaScript and React.

List of Text book :

1. The Complete Reference JavaScript –Thomas A. Powell & Fritz Schneider-McGraw-hill Publication.
2. JavaScript and JQuery: Interactive Front-End Web Development – Jon Duckett, John Wiley & Sons.
3. Learning Web Design (HTML, CSS, JavaScript) – Jennifer Niederst Robbins.
4. Beginning React – Greg Lim.

List of Text Reference book :

1. Head First JavaScript Programming – Eric Freeman & Elisabeth Robson.
2. Eloquent JavaScript (Beginner Friendly Parts) – Marijn Haverbeke.
3. React in Easy Steps – Mike McGrath.

E-Resources/ WebLinks:

1. <https://www.w3schools.com/js/>
2. <https://www.tutorialspoint.com/javascript/index.htm>
3. <https://www.javascripttutorial.net/>
4. <https://www.javatpoint.com/javascript-tutorial>
5. <https://javascript.info/>
6. <https://react.dev/>

List of Experiments:

Note: The experiment list provided beneath is for reference only. The course teacher may change/formulate it as per his/her methodology and requirement.

Practical List

1. Display message using alert().
2. Perform addition of two numbers using JavaScript.
3. Take user input using prompt() and display result.
4. Calculate area of circle and rectangle.
5. Convert temperature (Celsius to Fahrenheit).
6. Display output using console.log().
7. Check whether number is even or odd using if-else.
8. Find largest among three numbers.
9. Use switch case for menu-driven program.
10. Grade calculation based on marks.
11. Print numbers using loop (1–10).
12. Display multiplication table.
13. Create function for calculator (add, sub, mul, div).
14. Create and display array elements.
15. Find sum and average of array.
16. Create student object and display details.
17. Change text content using DOM.
18. Change background color using button click.
19. Show/hide elements using JavaScript.
20. Validate form (name, email, mobile).
21. Create dynamic greeting message.
22. Handle events (onclick, onsubmit).
23. Create first React app.
24. Display message using JSX.
25. Create functional component.
26. Pass data using props.
27. Create simple counter using state.

28. Implement event handling in React.

29. Display list using map().

30. Simple calculator using JavaScript.

Mapping of CLO , PO And PSO:

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes (PSOs)		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CLO1	L	M	L	H	M	M	L					M	M	L	M
CLO2		H		H	H	M	M				M		H		M
CLO3		M		H	M	H	H	M			M		H		H
CLO4	M	M		H	M	M	H	M			H		H	M	H
CLO5		M		H	M	H	M	H	M		M		H		H
CLO6	M	M	L	H	H	H	M	H	M	H	H	H	H	H	H

H:High, M:Medium, L:Low