**Ms. Neeraj H. Ahuja | A.Y.: 2025-26 | Sem./Year: 6 | Course: 2302CS622 – Java Script Frameworks | Slot Type: Lab (TA) | Division: CE-6**

| Sr. | Course Content | Planning Title | Planning Description |
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| 1 | - | Write a C program to demonstrate iterative control statements | 1) Write a C program to print the first 10 natural numbers using iteration. (A)<br>2) Write a C program to calculate the sum of digits of a number using iterative control statements. (A)<br>3) Write a C program to find the factorial of a given number using iteration. (A)<br>4) Write a C program to reverse a number using repetition statements. (A)<br>5) Write a C program to display a simple star pattern using nested iterative statements. (A) |
| 2 | Basics of JavaScript | Write a JavaScript program for Loop-base | 1) Write a program in JavaScript that accepts a number as input and prints its multiplication table up to 10 using a loop. (A)<br>2) Write a program to calculate the factorial of a given number using a for or while loop. (B)<br>3) Write a program to generate and display the Fibonacci series up to N terms using a loop. (C) |
| 3 | Basics of JavaScript | Write a JavaScript program to perform String and Array Operations. | 1) Write a program to display string length, uppercase, and lowercase versions of an input string. (A)<br>2) Write a program to count the number of words in a given sentence. (B)<br>3) Write a program to check if a given string is a palindrome (reads the same forward and backward). (C)<br>4) Write a program to add and remove items from a shopping cart using array methods. (A)<br>5) Write a program to sort an array of student marks and display the highest and lowest marks. (B)<br>6) Write a program to calculate the total bill amount using map, filter, and reduce functions. (C) |
| 4 | Making Web Pages Interactive | Write a JavaScript program for DOM Manipulation | 1) Write a program to change the text and background color of a paragraph on button click. (A)<br>2) Write a program to create a simple image gallery slider with next and previous buttons. (B)<br>3) Write a program to perform addition, subtraction, multiplication, and division using DOM input fields and buttons. (C) |
| 5 | Making Web Pages Interactive | Write a JavaScript program for Event Handling | 1) Write a program to display an alert message when a button is clicked. (A)<br>2) Write a program to validate login form fields (email format, password length). (B)<br>3) Write a program to validate registration form fields and show error messages dynamically as the user types. (C) |
| 6 | Making Web Pages Interactive | Write a JavaScript program for Real-Time Applications | 1) Write a program to display the current date and time, updating every second using setInterval(). (A)<br>2) Write a program that counts and displays the number of remaining characters while typing in a textarea. (B) |

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| | | | 3) Write a program to fetch and display weather details of a city using a public weather API. (C) |
| 7 | Making Web Pages Interactive | Write a JavaScript program using JSON & Fetch API | 1) Write a program to read a local JSON file and display its content in the console. (A)<br>2) Write a program to fetch user data from a dummy REST API (JSONPlaceholder) and display it. (B)<br>3) Write a program to fetch data from an API and display it in an HTML table with a search feature. (C) |
| 8 | Modern JavaScript (ES6) | Write a JavaScript program to demonstrate ES6 Features | 1) Write a program that uses arrow functions and template literals to display personalized greetings. (A)<br>2) Write a program to demonstrate object/array destructuring and use of the spread operator. (B)<br>3) Write a program to create a Student class with properties and methods to display student details. (C) |
| 9 | Modern JavaScript (ES6) | Write a JavaScript program using Arrays & Objects with ES6 | 1) Write a program to store and display student names using arrays. (A)<br>2) Write a program to filter students who scored more than 35 marks using filter(). (B)<br>3) Write a program to calculate the average marks of students using reduce(). (C) |
| 10 | Modern JavaScript (ES6) | Write a JavaScript program for To-Do List Application | 1) Write a program to add new tasks to a to-do list using DOM. (A)<br>2) Write a program to mark tasks as completed in a to-do list. (B)<br>3) Write a program to save tasks in localStorage and retrieve them when the page reloads. (C) |
| 11 | Introduction to Node.js | Write a Node.js program for Basic Operations | 1) Write a Node.js program to print “Hello from Node.js” in the console. (A)<br>2) Write a Node.js program to create an HTTP server that displays a welcome message. (B)<br>3) Write a Node.js program to serve an HTML file through a server. (C) |
| 12 | Introduction to Node.js | Write a Node.js program for File System Operations | 1) Write a Node.js program to create and write content into a file. (A)<br>2) Write a Node.js program to read a file and append new content into it. (B)<br>3) Write a Node.js program to delete a file and handle the error if the file does not exist. (C)<br>4) Write a Node.js program using the util module to format strings and debug logs. (C) |
| 13 | Introduction to Node.js | Write a Node.js program using NPM Packages | 1) Write a Node.js program using chalk to print colorful log messages. (A)<br>2) Write a Node.js program using the os module to display system details (OS type, memory, CPU info). (A)<br>3) Write a Node.js program using moment to display the current date and time. (B)<br>4) Write a Node.js program that fetches weather information for a given city and displays it in the terminal. (C)<br>Write a Node.js program using the url module to parse and format a given web address. (C) |

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| 14 | MongoDB & Express.js with CRUD | Write an Express.js program to create REST APIs | 1) Write an Express.js program to create a GET API that returns “Hello Express”. (A)<br>2) Write an Express.js program to create POST and PUT APIs to handle student data stored in an array. (B)<br>Write an Express.js program to create a DELETE API that removes a student record and test it in Postman. (C) |
| 15 | MongoDB & Express.js with CRUD | Write an Express.js & MongoDB program to perform CRUD Operations | 1) Write a program to define a Student schema with properties like name, age, and course using Mongoose. (A)<br>2) Write an Express.js program to create and fetch student records from MongoDB. (B)<br>Write an Express.js program to update and delete student records in MongoDB and test using Postman. (C) |