**24-Day Intensive JavaScript Syllabus**

**Day 1: Introduction to JavaScript**

* JavaScript History and Use Cases
* Setting Up Environment (Browser Console, Node.js)
* Basic Syntax
* Variables and Constants (var, let, const)
* Data Types and Type Conversion

**Day 2: Operators and Expressions**

* Arithmetic, Assignment, and Comparison Operators
* Logical Operators
* Ternary Operator
* Understanding typeof and instanceof

**Day 3: Control Structures**

* Conditional Statements (if, else, switch)
* Loops (for, while, do-while)
* Loop Control Statements (break, continue)

**Day 4: Functions**

* Function Declaration vs Expression
* Arrow Functions
* Function Parameters and Default Parameters
* Returning Values
* Scope and Closures

**Day 5: Objects and Arrays**

* Object Basics
* Object Methods and this Keyword
* Array Basics
* Array Methods (map, filter, reduce, etc.)
* Iterating Over Arrays and Objects

**Day 6: DOM Manipulation**

* Understanding the DOM
* Selecting Elements (getElementById, querySelector, etc.)
* Modifying Content and Attributes
* Adding/Removing Elements Dynamically
* Event Listeners and Event Handling

**Day 7: Events and Event Handling**

* Event Types (Mouse, Keyboard, Form Events)
* Event Delegation
* Preventing Default Actions
* Event Propagation (Bubbling and Capturing)

**Day 8: Advanced Arrays**

* Advanced Array Methods (every, some, find, flatMap, etc.)
* Multi-Dimensional Arrays
* Array Destructuring
* Spread and Rest Operators

**Day 9: Asynchronous JavaScript Basics**

* Callbacks
* Promises (resolve, reject, then, catch, finally)
* async/await
* Error Handling in Asynchronous Code

**Day 10: JavaScript Objects (Advanced)**

* Object Destructuring
* Object Methods (Object.keys, Object.values, Object.entries)
* Object Cloning and Merging
* Prototypes and Inheritance

**Day 11: JavaScript Classes**

* ES6 Classes
* Class Constructors
* Static Methods
* Extending Classes and Inheritance
* Getters and Setters

**Day 12: Error Handling**

* try...catch...finally
* Custom Errors
* Debugging JavaScript Code (Browser DevTools)

**Day 13: Modules**

* ES6 Modules (import/export)
* Default and Named Exports
* Bundling with Tools (e.g., Webpack, Vite)

**Day 14: Browser APIs**

* Fetch API
* LocalStorage and SessionStorage
* Geolocation API
* Working with the Clipboard API

**Day 15: Regular Expressions**

* Syntax and Patterns
* String Matching and Searching
* Using RegExp with Methods (test, match, replace)

**Day 16: JavaScript Performance Optimization**

* Debouncing and Throttling
* Memory Leaks and Garbage Collection
* Writing Efficient Loops
* Minimizing DOM Manipulation

**Day 17: Advanced Functions**

* Higher-Order Functions
* Function Currying
* Memoization
* Function Composition

**Day 18: Working with Dates**

* Date Object
* Formatting and Parsing Dates
* Calculations with Dates
* Libraries (e.g., Moment.js, date-fns)

**Day 19: JavaScript Patterns**

* Module Pattern
* Singleton Pattern
* Factory Pattern
* Observer Pattern

**Day 20: Testing JavaScript**

* Unit Testing Basics
* Writing Tests with Jest
* Mocking and Spying Functions

**Day 21: TypeScript Basics**

* Why TypeScript?
* Setting Up TypeScript
* Types and Interfaces
* Type Inference and Advanced Types

**Day 22: Framework Introduction**

* Understanding React and Vue Basics
* Introduction to Node.js
* Setting Up Express Server
* Basics of Frontend-Backend Communication

**Day 23: Building a Mini Project**

* Choose a Simple App (e.g., To-Do List, Weather App)
* Structure Code and Plan Components
* Implement Features Step-by-Step
* Focus on Using Modern JS Concepts

**Day 24: Capstone Project**

* Build a Full-Fledged App (e.g., Blog App, E-commerce Cart)
* Use All Key Concepts Learned
* Test and Optimize the Application
* Prepare for Deployment (e.g., Using Netlify, Heroku)