Final Revision Sheet - Units 3, 4, and 5

# Unit 3: JavaScript Core Concepts

• var, let, const: 'let' is block scoped, 'const' is immutable, 'var' is function scoped.

• Data Types: number, string, boolean, undefined, null, object, array.

• Functions: Define with function keyword or arrow syntax. Can take parameters and return values.

• Arrays: List of values. Use push(), pop(), map(), filter().

• Objects: Key-value pairs. Access with dot or bracket notation.

• Loops: for, while loops to repeat code.

• ES6 Features: Destructuring, arrow functions, template literals.

# Unit 4: DOM, Interactivity, and Storage

• DOM: Live tree of the webpage. Manipulate with getElementById, querySelector, etc.

• Event Handling: Use addEventListener or onclick for interaction.

• Responsive JavaScript: Detect screen width with window.innerWidth.

• localStorage: Save key-value pairs in the browser permanently.

• sessionStorage: Data is cleared when tab closes.

• IndexedDB: Advanced structured storage for larger and complex data.

• Practical Example: To-do list app with add/delete/save in localStorage.

# Unit 5: React.js and Node.js

• React Components: Reusable UI blocks defined as functions or classes.

• State: Internal, changeable data in a component (useState).

• Props: External data passed from parent to child component.

• JSX: Syntax combining HTML + JS for creating elements.

• Virtual DOM: React updates only what's changed, making UI fast.

• Setup React: npx create-react-app my-app.

• Node.js: Run JavaScript on the server.

• Express.js: Lightweight framework to handle server routes and APIs.

• Use Case: Full-stack web app using React frontend + Node/Express backend.