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| * Day | * Topic | * Description | * Hours |
| * 1 | * Introduction to UI | * **Core UI fundamentals** * Website planning * Site goals and guidelines * **Intro to User Experience** * What is UX and its role in developing applications * What is Wireframe & Visual Designing   How UX/VD helps for Organizationss   * Audience analysis * Know resources and abilities * Influencing the development * **Working of browser** * Browser definition, concepts * Examples of browsers * HTTP * Request-Response model | * 5 Hrs. |
| * Introduction to IDE | * **IDE's for web development** * ATOM * Sublime * Visual Studio Code | * 1 Hrs. |
|  | * **Visual Studio** * **-** About addons/plugins * - Console - Terminal | * 2 Hrs. |
| * 2 | * Code Repository | * **Version controlling** * - What’s version controlling * - Intro to repository * - Introduction to GIT * - Connecting Visual studio to git * **Github** * - Create repository * - How to Fork and Clone a repo * - What is branch, create a branch * - How to take a pull and push code to repo * - What is Pull request and its advantages * - Intro to GIT CLI and GIT tools | * 8 Hrs. * (Theory + Workshop on Repo) |
| * 3 | * Introduction to HTML | * **HTML – DOM Structures** * DOM structure * HTML DOM * DOM tree * Types of DOM nodes * DOM tree traversal * **SEO** * - What is SEO & Its role in Web Development * - How it helps for Organisations * **Evolution of HTML5** * HTML5 basics * Features * Versions * <!DOCTYPE>, Page Encoding * Meta Tags – Intro, Usage/Purpose * Markup - <html>, <head> & <body> * Tags - <div><Span>… * HTML 5 Block level and Inline level element * Deprecated tags in HTML * HTML5 Semantic tags (SEO) * - header, footer, article, side * - form elements – input, button… * HTML5 Attributes. | * 8 Hrs. * (Theory + Workshop on basic HTML structure and push to their repo) |
| * 4 | * Introduction to CSS | * **Introduction to CSS** * Concepts, Features, Syntax, Properties * Comments * Selectors – id, class, grouping of selectors * Three ways to insert CSS * Reset CSS * Text alignment * CSS font – family, size, style * CSS tables, lists * Box Model * Backgrounds * Positions    Sprite Images - Usage   * Multiple Column Layout | * 8 Hrs. * (Theory + Workshop on styling HTML) |
| * 5 | * Introduction to Java Script | * **Java Script Basics**  JS essentials, concepts  Necessity of JS * JS engine, JS versions * Insert JS in html page * - Using Internal & external Java Script * Document Object Hierarchy  Program structure  Variables- declaration, initialization, naming.  Operators – Arithmetic, Assignment, Logical, * Data types  JS alert boxes, console statements | * 4 Hrs. |
| Control statements – if, if..else, elseif structure  Switch statement  Loops- while, do while, for…in  Break, continue   * **JS functions**   Function definition, arguments, return values   * Java Script event handling * - Events and Event handlers * Form validations * - Javascript validation * - HTML5 form attributes * JS Debugging with Developer Tools.(Firebug) | * 4 Hrs. * (Theory + Workshop on Create Form and validation on submit) |
| * 6 | * L2 UI/HTML5 | * **Document Outlining Algorithm** * Heading content * Section content * Semantic Coding as per W3C Standards * **HTML 5 Web Storage** * Session Storage * Local Storage * Delete Storage * **HTML 5 Selector AP**I * querySelector * querySelectorAll * HTML5 Manifest * HTML5 Application Cache * HTML5 GeoLocation * HTML5 Web Workers | * 8 Hrs. * (Theory + Workshop on storing data in session/cookie, Add HTML5 APIs for GEO Location) |
| * 7 | * CSS3 | * **CSS Advanced features** * - Text Effects * - Grouping or Nesting * - Box shadow * - 2D Transformations * - 3D Transformations   - Animations   * - CSS and inheritance | * 4 Hrs. |
| Webpage Layouts | * **Introduction Layouts** * Static * Liquid * Adaptive * Grid Layout   **Responsive Web Design**  Responsive Web development   * Media Queries * How CSS renders in tablet and mobile & HTML Meta tags * Breakpoints | * 4 Hrs. * (Theory + Workshop on CSS3 & RWD) |
| * 8 | * CSS3/Framework | **Intro to Framework & Library**  - What is a Framework/Library  **Development frameworks – BootStrap, Foundation**   * - Advantages and Usage * - Import dependency files * - Features of Bootstrap * - Classes of Bootstrap used for Responsive web dev * - Bootstrap styling for form elements * - Accordion, Menu – for Desktop & Mobile(Hamburger)   SASS/LESS  - What is CSS Preprocessor  - Advantages & CodeModularity  - How it gets rendered in browsers | * 8 Hrs. * (Theory + Workshop on styling mobile app using Bootstrap) |
| * 9 | * JSON | * **Java Script Object Notation(JSON)** * Concepts * Syntaxes and Data types * JSON objects, schema * Arrays inside JSON * JSON comparison with XML * Programming, applicability * Properties of JSON as data format * Security concerns | * 3 Hrs. |
| * Ajax | **AJAX**   * Background * Request-Response model * Asynchronous communication * XMLHTTPRequest object * Browser recognition * States * **Intro to Jquery**   - Usage & Advantages  - Import in HTML  - Basics of accessing html elements  Ajax using Jquery   * - Different ways of calling ajax * - Get & Post calls * - Purpose of setting headers * - callback function * - Success, Error & Complete Methods * - Displaying result using jquery loops | * 5 Hrs. * (Theory + Workshop on making sample API call & render result in Html page) |
| * 10 | * JavaScript L2 | * **Object concepts in JS** * Declaration, Usage, method call * Variable scope   History object, Array object, Date object  Map, object.keys/values/entries  Call & apply  Function binding  Closures  Intro to MVC Architecture | * 8 Hrs * (Theory + Workshop on javascript object/map) |
| * 11&12 | * Intro to ES6 | * **ES6 Fundamentals** * Why ES6 * Let and const keywords * Classes and Inheritance * Templating and Strings * Destructing * **Babel** * Usage and Advantages * Installing using node * **NodeJS** * What is nodejs * how to install * what is package manager * what is package.json * How to install packages/dependencies * How to run node | * 16 Hrs * (Theory + workshop on ES6) |
| * 13 | * Introduction to Web Standards | **Intro to Unit testing**   * - Purpose and frameworks available * - Unit Testing using Testacular(Karma) * Web Development Standards * W3C Standards * WAI-ARIA * WCAG Guidelines (A, AA, AAA) * Section 508 guidelines * **Performance tuning in JS** * - Testing using browser’s console, Network & performance tabs * Best Practices, Revision and Buffer | * 8 Hrs. |

* Day 14 & 15 Case study Implementation