HTML and CSS COURSE SYLLABUS

OVERVIEW: HTML and CSS go hand in hand for developing flexible, attractively and user friendly websites. HTML (Hyper Text Markup Language) is used to show content on the page where as CSS is used for presenting the page. HTML describes the structure of a Website semantically along with presentation cues, making it a mark-up language, rather than a programming language. HTML allows images and objects to be embedded and can be used to create interactive forms.

COURSE OBJECTIVES:

- HTML is highly flexible and supported on all browsers.
- User friendly and an open technology.
- It give better performance.
- CSS provides powerful control over the presentation of an HTML document.
- CSS saves many times as it can be reused in many HTML pages.
- CSS can be used to make responsive web pages, which are compatible on multiple devices. It can be used to allow the web pages to display differently depending on the screen size or device on which it is being viewed.

PRE-REQUISITE / TARGET AUDIENCE:

- Any beginner who wants to build career as Web designer can take this course.

MODULE 1: WEB PROGRAMMING INTRODUCTIOn

In this module, you will learn basic introduction to web development. The fundamental technology used to define the structure of a webpage.

- Web Development Introduction

MODULE 2: HTML-INTRODUCTION

In this module, sets the stage, getting you used to important concepts and syntax, looking at applying HTML to text, how to create hyperlinks, and how to use HTML to structure a webpage.

- History of HTML
- What you need to do to get going and make your first HTML page
- What are HTML Tags and Attributes?
- HTML Tag vs. Element
- HTML Attributes:
- How to differentiate HTML Document Versions

MODULE 3: HTML-BASIC FORMATTING TAGS

In this module, HTML is used to specify whether your web content should be recognized as a paragraph, list, heading, link, image, multimedia player, form, or one of many other available elements or even a new element that you define.

- HTML Basic Tags
- HTML Formatting Tags
- HTML Color Coding

MODULE 4: HTML-GROUPING USING DIV SPAN

In this module, The HTML and element is the generic container for flow content and does not inherently represent anything. Use it to group elements for purposes such as styling (using the class or id attributes), and inline level and block level separation.

- Div and Span Tags for Grouping

MODULE 5: HTML-LISTS

In this module, The HTML <li> element is used

to represent an item in a list. It must be contained in a parent element: an ordered list (<ol>), an unordered list (<ul>), or a menu (<menu>). In menus and unordered lists, list items are usually displayed using bullet points, now we are going to check how to use html list

- Unordered Lists
- Ordered Lists
- Definition list

MODULE 6: HTML-IMAGES

In this module, the Web was just text, and it was really quite boring. Fortunately, it was not too long before the ability to embed images (and other more interesting types of content) inside web pages was added. There are other types of multimedia to consider, but it is logical to start with the humble <img> element, used to embed a simple image in a webpage. This module will help you to make use of image mapping

- Image and Image Mapping

MODULE 7: HTML-HYPERLINK

In this module, Hyperlinks are important they are what makes the Web a web. This module shows the syntax required to make a link, and discusses link best practices.

- URL - Uniform Resource Locator
- URL Encoding

MODULE 8: HTML-TABLE

In this module, representing tabular data on a webpage in an understandable, accessible way can be a challenge. This module covers basic table markup, along with more complex features such as implementing captions and summaries.

- <table>
- <th>
- <tr>
- <td>
- <caption>
- <thead>
- <tbody>
- <tfoot>
- <colgroup>
- <col>

MODULE 9: HTML-IFRAME

In this module, The HTML <iframe> element represents a nested browsing context, effectively embedding another HTML page into the current page. This module will help you make use of iframe tag

- Attributes Using
- Iframe as the Target

MODULE 10: HTML-FORM

In this module, Forms are a very important part of the Web — these provide much of the functionality you need for interacting with web sites, e.g. registering and logging in, sending feedback, buying products, and more. This module gets you started with creating the client-side parts of forms.

- <input>
- <textarea>
- <button>
- <select>
- <label>

MODULE 11: HTML-HEADERS

In this module, The HTML <head> element provides general information (metadata) about the document, including its title and links to its scripts and style sheets.

- Title
- Base
- Link
- Style s

- Script
- Meta

MODULE 12: HTML-MISCELLANEOUS

In this module, The HTML <Meta> element represents metadata that cannot be represented by other HTML meta-related elements, like <base>, <link>, <script>, <style> or <title>.this module will help you learn Meta tags, xhtml and deprecated tags

- HTML Meta Tag
- XHTML
- HTML Deprecated Tags & Attributes

MODULE 13: CSS2-INTRODUCTION

In this module CSS is used to style and lay out web pages — for example, to alter the font, colour, size and spacing of your content, split it into multiple columns, or add animations and other decorative features. This module gets you started on the path to css.

- Benefits of CSS
- CSS Versions History
- CSS Syntax
- External Style Sheet using <link>
- Multiple Style Sheets
- Value Lengths and Percentages

MODULE 14: CSS2-SYNTAX

In this module, the basic goal of the Cascading Stylesheet (CSS) language is to allow a browser engine to paint elements of the page with specific features, like colors, positioning, or decorations. The CSS syntax reflects this goal and its basic building blocks are

- CSS Syntax
- single Style Sheets
- Multiple Style Sheets
- Value Lengths and Percentages

MODULE 15: CSS2-SELECTORS

In this module, CSS selectors define the elements to which a set of CSS rules apply. In this module, you will find how many selectors are there how to use it

- ID Selectors
- Class Selectors
- Grouping Selectors
- Universal Selector
- Descendant / Child Selectors
- Attribute Selectors
- CSS – Pseudo Classes

MODULE 16: CSS2-COLOR BACKGROUND CURSOR

In this module, CSS Backgrounds and Borders is a module of CSS that lets you style elements backgrounds and borders. Backgrounds can be filled with a color or image, clipped or resized, and otherwise modified. Borders can be decorated with lines or images, and made square or rounded.

- background-image
- background-repeat
- background-position
- CSS Cursor

MODULE 17: CSS2-TEXT FONTS

In this module, CSS Fonts that defines font-related properties and how font resources are loaded. It lets you define the style of a font, such as its family, size and weight, line height, and the glyph variants to use when multiple are available for a single character

- color
- background-color
- text-decoration
- text-align
- vertical-align
- text-indent
- text-transform

- white-space
- letter-spacing
- word-spacing
- line-height
- font-family
- font-size
- font-style
- font-variant
- font-weight

MODULE 18: CSS2-LISTS TABLES

In this module, lists table that defines how to lay out table data.

- list-style-type
- list-style-position
- list-style-image
- list-style
- CSS Tables
    I. border
    II. width & height
    III. text-align
    IV. vertical-align
    V. padding
    VI. color

MODULE 19: CSS2-BOX MODEL

In this module, CSS box model that defines the rectangular boxes—including their padding and margin—that are generated for elements and laid out according to the visual formatting model.

- Borders & Outline
- Margin & Padding
- Height and width
- CSS Dimensions

MODULE 20: CSS2-DISPLAY POSITIONING

In this module, the position CSS property specifies how an element is positioned in a document. The top, right, bottom, and left properties determine the final location of positioned elements.

- CSS Visibility
- CSS Display
- CSS Scrollbars
- CSS Positioning
    1. Static Positioning
    2. Fixed Positioning
    3. Relative Positioning
    4. Absolute Positioning
- CSS Layers with Z-Index

CSS FLOATS

In this module, the float CSS property specifies that an element should be placed along the left or right side of its container, allowing text and inline elements to wrap around it. The element is removed from the normal flow of the web page, though remaining a part of the flow (in contrast to absolute positioning).

- The float Property
- The clear Property
- The clearfix Hack

At the end of the course, participants will be able to get:

- By the end of this course, you will have a basic & thorough understanding of HTML & CSS
- Upon completion, you will have coded a handful of useful HTML & CSS examples
- In the last section of this course, you focus on building a beautiful, semantic, HTML & CSS web page
- By the end of this course, you will have impressed yourself, and will be able to hit the ground running with your newly acquired skillset
- Start building beautiful websites
- Build a portfolio website, so you can highlight your best web work
- Get the ball rolling for a career in web design

HTML 5 COURSE SYLLABUS

OVERVIEW: HTML5 is a standard for structuring and presenting content on the Web. It incorporates features such as geolocation, video playback and drag-and-drop. HTML5 allows developers to create rich internet applications without the need for third party APIs and browser plug-ins.

COURSE OBJECTIVES:

- HTML5 comes with many new content-specific elements, like article, footer, header, nav, section.
- Improvements to HTML web forms where new attributes have been introduced for input tag with support for form controls like calendar, date, time, email, url, search etc…
- Introduction of canvas, which supports a two-dimensional drawing surface that you can program with JavaScript.
- Embedding audio or video to web pages without third-party plugins.
- Choice to the visitors to share their physical location with your web application.(Geo Location)
- CSS Support for additional selectors, Drop shadows, Rounded corners, multiple backgrounds, Gradients, Animation, Transparency and many more…
- The CSS3 specification is still under development by W3C. However, many of the new CSS3 properties have been implemented in modern browsers like New Selectors, Backgrounds and Borders, Gradient Effects, Text Effects and Fonts, Transformations, Transitions, Animations, Multiple Column Layout.

PRE-REQUISITE / TARGET AUDIENCE:

- basic understanding of html and its tags

MODULE 1: HTML5 INTRODUCTION

In this module, you will learn the evolution of html5. HTML5 is the latest standard for HTML. HTML5 was designed to replace both HTML 4, XHTML, and the HTML DOM Level 2.

- Limitations of HTML 4
- Introduction and Advantages of HTML 5
- First HTML5 Document
- Overview of New Features of HTML5
- List of HTML 4.01 elements removed from HTML5:

MODULE 2: PAGE LAYOUT SEMANTIC ELEMENTS

In this module, you will learn what semantic elements is and how to use it. A semantic element clearly describes its meaning to both the browser and the developer.

- Header
- Navigation
- Section & Articles
- Footer
- Aside and more…

MODULE 3: HTML5 WEB FORMS

In this module, you will learn about html web forms, HTML form on a web page allows a user to enter data that is sent to a server for processing. Forms can resemble paper or database forms because web users fill out the forms using checkboxes, radio buttons, or text fields.

- HTML 5 Global Attributes
- Displaying a Search Input Field
- Contact Information Input Fields
- Utilizing Date and Time Input Fields
- Number Inputs
- Selecting from a Range of Numbers
- Selecting Colors
- Creating an Editable Drop-Down
- Requiring a Form Field
- Autofocusing a Form Field
- Displaying Placeholder Text
- Disabling Autocomplete
- Restricting Values

MODULE 4: CANVAS API

In this module you will learn about canvas, The HTML <canvas> element is used to draw graphics, on the fly, via JavaScript. The <canvas> element is only a container for graphics. You must use JavaScript to actually draw the graphics. Canvas has several methods for drawing paths, boxes, circles, text, and adding images. Overview of HTML5 Canvas

- History
- What Is a Canvas?
- Canvas Coordinates
- Registering the Canvas dimensions
- Drawing on Canvas with paths, curves etc.
- Working with Solid colors, Gradients & Transparency
- Importing External Images & Setting the background
- Working with Color & Geometrical transformations
- Creating graphs & charts
- Working with Text
- Animating a Vertical Bar-Chart
- Fine tune animation with Acceleration & Easing.
- Working with Pixel Data
- CSS and Canvas
- Create High-Res, Retina-Display-Ready Media with Canvas
- Clipping Canvas drawings & saving them to a file.
- When Not to Use Canvas
- Fallback Content
- Implementing Canvas Security
- Ensuring backward compatibility Support of Canvas API to older versions of browsers

MODULE 5: SVG API

In this module you will learn about svg, svg stands for Scalable Vector Graphics and it is an SVG viewer then renders a language for describing 2D-graphics and graphical applications in XML and the XML. SVG is mostly useful for vector type diagrams like Pie charts; Two-dimensional graphs in an X, Y coordinate system etc.

- Overview of SVG
- Understanding SVG
- Scalable Graphics
- Creating 2D Graphics with SVG
- Adding SVG to a Page
- Simple Shapes
- Transforming SVG Elements
- Reusing Content
- Patterns and Gradients
- SVG Paths
- Using SVG Text
- Putting the Scene Together
- Building an Interactive Application with SVG
- Adding the CSS Styles

- Ensuring backward compatibility Support of SVG API to older versions of browsers

MODULE 6: HTML5 MEDIA (VIDEO & AUDIO)

In this module you will learn multimedia. HTML5 introduced two new elements that include playback functionality for supported media formats. The audio element can be used to add audio content to a web page.

- Adding Video & Audio to a page
- Supported Audio & Video formats
- Audio & Video codecs
- Loss & Lossless compression
- Media specific attributes Vs Global attributes
- Deployment challenges on Mobiles
- Converting Audio & Video to supported formats using open source & commercial software
- Using a Frame grabber
- Custom Controls, Seek bar, Progress bar with Javascript & CSS
- Applying CSS skins & transforms
- Working with multiple tracks, Subtitles & Captions with Captionator, Player & the Lean back Player
- Integrating Video with Canvas & SVG
- Applying Visual filters using Canvas & SVG
- Debugging, Browser support.
- Licensing issues.
- Ensuring backward compatibility Support of Media API's to older versions of browsers

MODULE 7: WEB STORAGE API

In this module you will learn web storage, web storage sometimes known as DOM storage (Document Object Model storage), provides web application software methods and protocols used for storing data in a web browser Goodbye cookies introducing Web Storage

- Browser Support
- Local Vs Session storage
- Using the HTML5 Web Storage API
- Setting and Retrieving Values
- Storing forms & caching events with local storage
- Storing & Accessing JSON data.
- Communicating Web Storage Updates
- Data Security
- Need more storage space - exploring Web SQL Database API & Indexed DB
- Creating a Grocery List with Web SQL DB
- Ensuring backward compatibility Support of Web Storage API to older versions of browsers

MODULE 8: GEOLOCATION

In this module, you will learn about geolocation. Geolocation is the identification or estimation of the real- world geographic location of an object, such as a radar source, mobile phone, or Internet-connected computer terminal. Comparing Geolocation techniques in the past & modern day Geolocation

- Understanding the pillars of Geolocation. i.e., GPS/ IP Address/ Cell IDs/ Wi-Fi and Bluetooth
- LBS (Location based services)
- Mobile & Augmented reality applications, which consume geolocation service.
- Understanding Latitude, Longitude,

Speed, Course & Accuracy
- Getting you current location
- Browser compatibility & Fallbacks.
- Reverse geocoding
- Mapping location
- Getting Distance & Directions between two places.
- Following a moving location
- Combing geolocation with google maps
- Triggering the Privacy Protection Mechanism
- Saving Geographical information
- Geolocation usage – Geo Marketing, Geo social, Geo tagging, Geo social, Geo tagging & Geo applications.
- Building a Real-Time Application with HTML5 Geolocation
- Ensuring backward compatibility Support of Geolocation API to older versions of browsers

MODULE 9: WEB WORKERS

In this module, you will learn about web worker. A web worker is a JavaScript that runs in the background without affecting the performance of the page. You can continue to do whatever you want: clicking, selecting things, etc., while the web worker runs in the background.

- What are web workers?
- Possibilities & Limitations of web workers
- Inline, Dedicated & Shared Workers
- Creating a worker, Assign roles & deploying the same.
- Leveraging a Shared Worker
- Worker support in modern browsers
- Managing multiple workers
- Parsing data with workers
- Perform Heavy array computations
- Using timers in conjunction with worker
- Work with pixel manipulations
- Make twitter JSONP requests
- Connect to share workers at same time with multiple browser windows
- Transferable objects
- Debugging Your Workers
- Ensuring backward compatibility Support of Web Workers API to older versions of browsers

MODULE 10: HTML5-SERVER SENT EVENTS

Server-sent events is a standard describing how servers can initiate data transmission towards clients once an initial client connection has been established. They are commonly used to send message updates or continuous data streams to a browser client and designed to enhance native, cross-browser streaming through a JavaScript API called Event Source.

CSS 3 COURSE SYLLABUS

aOverview: CSS (Cascading Style Sheets) consist of a set of formatting rules that we use to control the layout and appearance of the content on a web page. One best feature of CSS is that you can store all the CSS rules in one document, keep that document separate from the HTML content, and link the two together. CSS3 offers some new and exciting features to enhance the appearance of the website. CSS3 makes it easier for the designers that will make the visitors go crazy over them to be implemented.

PRE-REQUISITE / TARGET AUDIENCE:

- basic understanding of html and its tags

MODULE 1: INTRODUCING CSS3

In this module you will learn about css3, CSS3 is the latest upgrade in CSS levels. By Using CSS3, you can easily use old CSS element as well. There are a lot of new modules has been added in CSS3.But we must know that CSS3 is still under development and will be completed after sometimes.But most of its elements implemented in all major browsers. It has New Text effects .It has Transition effects. It has Animation effects and many other things.

- What CSS3 Is and How It Came to Be
- A Brief History of CSS3
- CSS3 Is Modular
- Module Status and the Recommendation Process
- CSS3 Is Not HTML5
- Let's Get Started: Introducing the Syntax
- Browser-Specific Prefixes
- Future-Proofing Experimental CSS
- Getting Started

MODULE 2: BORDER AND BOX EFFECTS

In this module, you will learn this is the great incrementation in CSS3, We can add rounded border to any of the HTML elements. We don't need to use photoshop anymore for rounded corners. border-radius Shorthand

- Differences in Implementation Across Browsers
- Using Images for Borders
- Multicolored Borders
- Adding Drop Shadows
- Border and Box Effects: Browser Support

MODULE 3: BACKGROUND IMAGES AND OTHER DECORATIVE

In this module, here we will learn how to set background-image and its properties to develop. The background-image property in CSS applies a graphic (e.g. PNG, SVG, JPG, GIF, WEBP) or gradient to the background of an element. There are two different types of images you can include with CSS: regular images and gradients.

- PROPERTIES
- Background Images
- Multiple Background Images
- Background Size
- Background Clip and Origin
- background-repeat
- Background Image Clipping
- Image Masks
- Background Images: Browser Support

MODULE 4:2D TRANSFORMATIONS

In this module, you will learn about transformation .transformation is an effect that lets an element change shape, size and position.

- The transform Property
- rotate
- Position in Document Flow
- transform-origin
- translate
- skew
- scale
- Multiple Transformations
- Transforming Elements with Matrices
- Reflections with WebKit
- 2D Transformations: Browser Support

3D TRANSFORMATIONS

- 3D Elements in CSS
- Transform Style
- The Transformation Functions
- Rotation Around an Axis
- Translation Along the Axis
- Scaling
- The Transformation Matrix
- Perspective
- The perspective and perspective-origin Properties
- The Transformation Origin
- Showing or Hiding the Backface
- 3D Transformations: Browser Support

Module 5: TRANSITIONS AND ANIMATIONS

In this module, By the Help of Transition Property of CSS3, We can transit our element in hover status. Actually you can display the hover effects in the transitive way or animated way. Animation is another and power full technique in CSS3; by using it, we can animate any element in frames.

- Transitions
- Property
- Duration
- Timing Function
- Delay
- Shorthand
- The Complete Transition Example
- Multiple Transitions
- Triggers
- More Complex Animations
- Key Frames
- Animation Properties
- The Complete Animations Example
- Multiple Animations
- Transitions and Animations: Browser Support

MODULE 6: CSS3-MULTI COLUMN LAYOUT

In this module, using css3 we can divide columns into multiple parts according to web page viewport. Let's check how to do multiple column layout

- CSS3 Multi-column Properties
- CSS3 Create Multiple Columns
- CSS3 Specify the Gap Between Columns
- CSS3 Column Rules
- How Many Columns an Element Should Span
- The Column Width
- CSS3 Multi-columns Properties

MODULE 7: MEDIA QUERIES

In this module, Media Queries are a key component of responsive design, which make it possible for CSS to adapt based on various parameters or device characteristics. The @media at-rule is used to conditionally apply styles to a document.The Advantages of Media Queries

- Syntax
- Media Features

- Width and Height
- Device Width and Height
- Using Media Queries in the Real World
- Orientation
- Aspect Ratio
- Pixel Ratio
- Multiple Media Features
- Mozilla-Specific Media Features
- Media Queries: Browser Support

AT THE END OF THE COURSE, PARTICIPANTS WILL BE ABLE TO GET:

1. Create Web Page with HTML(5) & CSS(3)
2. How to set Headers , Paragraph for web page
3. How to set pages for webpage
4. Create animation elements
5. How to create a responsive website for all devices such as(Mobile, Tablet, Computer)
6. How to create Box and set Positions for elements
7. How To create buttons and use for pages or send forms
8. How to create to insert Video and Audio in webpage
9. How to create Vertical, Horizontal, Dropdown Navigation Bar(menus)
10. Create attractive different Forms
11. How to create Circle, Thumbnail and set Text on images

BOOTSTRAP SYLLABUS

MODULE 1:-INTRODUCTION TO BOOTSTRAP

In this module, you will learn about Bootstrap Introduction, how to design web page look and feel good by using Bootstrap and the basics of Bootstrap Framework using which you can create web projects with ease that

- What is Bootstrap Framework
- Why Bootstrap
- History of Bootstrap
- Advantages of Bootstrap Framework
- What is Responsive web page
- How to remove Responsiveness
- Major Features of Bootstrap
- What is Mobile-First Strategy
- Setting up Environment
- How to apply Bootstrap to Applications

MODULE 2:- BOOTSTRAP GRID

In this chapter, you will learn about the Bootstrap Grids in web design organise and structure content, makes the websites easy to scan and reduces the cognitive load on users. How to create page layouts through a series of rows and columns that house your content and how the Bootstrap grid system works that

- What is Bootstrap Grid
- How to apply Bootstrap Grid
- What is Container
- What is Offset Column
- How to Reordering Columns
- Advantages of Bootstrap Grid
- How to Display responsive Images
- How to change class properties
- How to use readymade themes
- How to customize Bootstrap's components, Less variables, and jQuery plug-in.
- What is Bootstrap Typography
- How to use Typography
- What is Bootstrap Tables
- What is Bootstrap Form Layout
- What is Bootstrap Button
- How display images in different styles like Circle shape etc
- How to display text like muted and warning etc
- What is Carets Classes
- How to hide or show the text in Bootstrap

MODULE 3:- BOOTSTRAP COMPONENTS

In this module, you will get knowledge on over a dozen reusable components built to provide iconography, dropdowns, input groups, navigation, alerts, and much more. Advantages of button groups and toolbars and how to use that

- What is Bootstrap Components
- Why Bootstrap Components
- Advantages of Bootstrap Components
- What are the different types of Bootstrap Components
- What is Glyphicons Component
- How to use Glyphicons Component
- What is Bootstrap Dropdown Menu Component
- What is Button Groups and Button Toolbar
- How to use Button Groups and Button Toolbar
- What are different Input Groups Components
- What is Navigation Pills & Tabs Components
- How to use Navigation Pills and Tabs Components
- What is Navbar Component

- How to build a Responsive Navbar
- How to Add Forms and other controls to Navbar
- How to Fix the position of navbar
- What is Breadcrumb Component
- What is Pagination Component
- How to apply Pagination in Application
- What is Labels / Badge Components
- What is Jumbotron / Page Header Components
- What is Thumbnail Component
- What is Alerts & Dismissible Alerts
- How to Create Progress Bar
- What is Media Objects Component
- Why Media Objects Component
- How to use Media Objects Component
- What is Bootstrap List Group Component
- What is Bootstrap Panel Component

MODULE 4:- BOOTSTRAP PLUG-INS

In this chapter, you will learn jQuery plug-ins that extend the features and can add more interaction to
your site. How to access bootstrap Plug-Ins, how to use Bootstrap plug-ins with other UI frameworks
and how to define custom events for most plug-ins unique actions that

- What is Bootstrap Plug-Ins.
- Why Bootstrap Plug-Ins
- How to use Bootstrap Plug-Ins
- What is Transition Plug-in
- What Modal Dialog Box
- What are the different Properties, Methods and Events of Model Dialog Box
- What is Scrollspy Plug-In
- What is Tab Plug-in
- How to use Tab Plug-in
- What is Drop Down Plug-in
- What is Tooltip Plug-in
- How to use Button Plug-in
- What are the different methods and events of Tooltip Plug-in
- What is Popover Plug-in
- What is alert and Button Plug-ins
- What is Collapse Plug-in
- What are different types of Properties, Methods and Events of Collapse Plug-in
- What is Carousel Plug-in
- What is Affix Plug-in

SYLLABUS OF JAVASCRIPT (ES11)

1) **variables (var,let & const)**
2) **Functions**
   - Named Functions
   - Anonymous Functions / Arrow Functions
   - Default Parameters in Functions
   - Rest Parameters in Functions
   - Constructor Functions
   - Optional Parameters in Functions
3) **Prototype**
   - Prototype Chaining
4) JSON
5) **Promises**
6) **AJAX Calls**
7) **CallBacks in JavaScript**
8) **Clousers in JavaScript**
9) **IIFE (Immidiate Invokable Functional Expressions)**
10) **Data Structures**
    - Map
    - WeakMap
    - Set
    - WeakSet
11) **Event Bubbling & Event Capturing**
12) **async & await keywords**
13) **Regular Expressions**
14) **call(), apply(), bind()**
15) **Debouncing**
16) **Currying**
17) **Throttling**

ANGULAR 11 WITH TYPESCRIPT 4

1) **Introduction To Typescript**
   - Introduction to Typescript
   - JavaScript & Typescript

2) **Oops In Typescript**
   - Classes, Class properties, Static Properties
   - Constructors, getters & setters
   - Inheritance, Abstract classes, Interfaces
   - Access modifiers

3) **Namespaces And Modules**
   - Namespaces and multiple files
   - Loading modules

4) **Generics**
   - Generic functions, classes
   - Generic types and arrays
   - Constraints

5) **Decorators**
   - Class Decorators
   - Decorator Factories
   - Method Decorators
   - Property Decorators
   - Parameter Decorators

ANGULAR 10

1) **Introduction to angular framework**
   - Introduction to Angular Framework, History & Overview
   - Environment Setup
   - Angular CLI, Installing Angular CLI
   - NPM commands & package.json
   - Bootstrapping Angular App, Components, AppModule
   - Project Setup, Editor Environments
   - First Angular App & Directory Structure
   - Angular Fundamentals, Building Blocks
   - MetaData

2) **Essentials Of Angular**
   - Component Basics
   - Setting up the templates
   - Creating Components using CLI
   - Nesting Components
   - Data Binding - Property & Event Binding, String Interpolation, Style binding
   - Two-way data binding
   - Input Properties, Output Properties, Passing Event Data

3) **Templates, Styles & Directives**
   - Template, Styles, View Encapsulation, adding bootstrap to angular app
   - Built-in Directives
   - Creating Attribute Directive
   - Using Renderer to build attribute directive
   - Host Listener to listen to Host Events
   - Using Host Binding to bind to Host Properties
   - Building Structural Directives

4) **Pipes, Services & Dependency Injection**
   - Parametrized Pipes
   - Chaining Multiple Pipes
   - Creating a Custom Pipe
   - Creating a Filter Pipe
   - Pure and Impure Pipes (or: How to "fix" the Filter Pipe)
   - Understanding the "async" Pipe
   - Services
   - Dependency Injections
   - Creating Data Service
   - Understanding Hierarchical Injector
   - Services for Cross Component Communication
   - Injection Tokens

5) **HTTP Requests**
   - App & Backend Setup
   - Sending Requests (Example: POST Request)
   - Adjusting Request Headers
   - Sending GET Requests
   - Sending a PUT Request
   - Transform Responses Easily with Observable Operators (map())
   - Using the Returned Data
   - Catching Http Errors
   - Using the "async" Pipe with Http Requests

6) **Observables & RXJS Operators**
   - Basics of Observables & Promises
   - Analysing a Built-in Angular Observable
   - Building & Using a First Simple Observable
   - Building & Using a Custom Observable from Scratch
   - Understanding Observable Operators
   - Using Subjects to pass and listen to data

7) **Authentication and Route Protection**
   - How Authentication works in SPA
   - JWT Module, JSON Web Tokens
   - Signup, Login and logout application
   - Router Protection, Route Guards
   - CanActivate interface
   - Checking and using Authentication Status, Router Protection and Redirection

NODE INTRODUCTION

MEAN STACK

1) **State Management**
   - NgRx Package

2) **Angular Material**
   - Using Angular Material in Angular Application Development
   - Pagination
   - Sorting
   - Filtering

3) **Cloud Deployment**
   - AWS Deployment
   - Heroku Deployment
   - CI / CD

ReactJS

1. **PRE-REQUISITES:**
   - JavaScript Introduction
   - Variables
   - Callbacks
   - Scope
   - ProtoType
   - Ajax
   - Promises
   - Generators
   - Closures
   - Currying
   - Higher Order Functions
   - Regular Expressions
2. **INTRODUCTION:**
   - React Introduction
3. **ENVIRONMENTAL SETUP:**
   - Installation Of ReactJS
4. **ESSENTIALS:**
   - React Essential Features And Syntax
5. **STATE & PROPS:**
   - React Components, Props And State
6. **STYLES:**
   - Styling Components
7. **LIFE CYCLE:**
   - React Component Life Cycle
8. **AJAX CALLS:**
   - HTTP REQUESTS/AJAX CALLS
9. **SPA(Single Page Applications):**
   - REACT ROUTING
10. **FORMS:**
    - React Forms and Form Validation
11. **DEPLOYMENT:**
    - Deploying REACT APP to the WEB
12. **REDUX:**
    - REACT REDUX
13. **MIDDLEWARE:**
    - SAGA, THUNK
14. **TESTING:**
    - UNIT TESTING IN REACT
15. **WEBPACK:**
    - WEBPACK
16. **SSR:**
    - SERVER-SIDE rendering with REACT
17. **REAL TIME APP:**
    - Real Application Hosting
18. **MERN DEVELOPMENT:**
    - Node Integration

Node JS

1. **PRE-REQUISITES:**
   1) Introduction to HTML
   2) JavaScript Introduction
      - Variables (let keyword)
      - Functions
      - Named Functions
      - Anonymous Functions
      - Classes in JavaScript
      - JSON

2. **GitHub:**
   - Real time environmental setup with GitHub

3. **INTRODUCTION:**
   - Node Introduction

4. **HTTP SERVER:**
   - Creating the Http Sever
   - Reading the Get Parameters
   - Reading the Post Parameters

5. **ExpressJS:**
   - ExpressJS Introduction
   - Rest API'S By Using ExpressJS
   - Get Parameters in ExpressJS
   - Post Parameters in ExprssJS
   - Modules in ExpressJS

6. **Socket.io:**
   - Chat application

7. **MULTER:**
   - Uploading the images to the server

8. **MySQL:**
   - CRUD Operations+

9. **MongoDB:**
   - CRUD Operations

10. **FILES:**
    - Files Operations

11. **JWT-SIMPLE:**
    - Authentication Module

12. **COOKIES:**
    - Operation on cookies

13. **Mongoose:**
    - MongoDB CRUD Operations by using mongoose

14. **INTERVIEW Q&A:**
    - Discussion Of Interview Question and Answers

FULLSTACK UI

INTRODUCTION TO FULLSTACK UI

- UI Developer roles and Responsibilities
- UX designer roles
- Technologies needed
- Power of UI
- Current market requirements on UI
- Sample Web pages
- Crawling and meta tags

BASICS

- DOM
- Structure of HTML Page
- Mandatory tags in the HTML page (HTML, head, body)
- What is CSS
- Different ways of applying CSS for elements, and priority chain of CSS
- Heading tags(H1…H6), Tags and attributes(Class, Id, style..etc)
- Inline and block-level elements

MORE TAGS IN HTML

- Including external page links in a page using anchor tags and its properties
- Working with row and column data using table tags
- Hiding and unhiding elements using display property
- image tag, p tag, ul and ol tags, li, nobr, hr, br etc
- Layouts, forms, buttons
- Input fields (textbox, radio button, checkbox, dropdown, text area etc)

MORE CSS PROPERTIES

- Adding borders, font, pseudo classes
- Positioning elements (absolute, relative, fixed and static)
- Image spriting
- Box model (margins, padding)
- Floating elements (float left, right etc.)
- Including external resources
- Absolute and Relative Paths
- Including external resources like CSS, images etc

FORM ELEMENTS

- Get & Post
- Validating input values in a form
- Form action and type

JQUERY FRAMEWORK

- Onload and onready diffrence
- jQuery selectors
- Multiple ways of refering dom elements using jQuery selectors
- jQuery methods
- Adding dynamic properties for dom elements
- Toggleing elements
- Creating dynamic elements using jQuery

JQUERY TRAVERSING METHODS

- Finding elements using jQuery techniques
- Filtering elements

EVENTS USING JQUERY

- Binding events
- Dynamic binding
- List of events been supported in jQuery(blur, change, click, dbclick….etc)

HTML5

- Difference between **HTML**5 and HTML 4
- List of Browsers support HTML5
- Doctype
- Media tags (audio and video tags)
- Graphics using Canvas tag
- Drag and Drop features
- Working on locations lat and lng using Geolocation
- Storing userpreferences using Localstorage.

CSS 3

- Difference between CSS2 and CSS3
- Adding borders and backgrounds
- Advanced text effects(shadow)
- 2D and 3D Transformations
- Adding Transitions to elements
- Adding animations to text and elements

RESPONSIVE DESIGNS

- Difference between multiple devices, making a page to work on multiple devices
- Media queries
- Introduction to Bootstrap CSS API(2hrs)

ANGULAR9

- Introduction to Angular9
- Components
- Services
- Single Page Applications
- Rest API Calls
- Directives
- Pipes
- Forms

REACTJS

- Introduction to ReactJS
- Components
- Rest API Calls
- Single Page Applications
- Redux

NODEJS

- Introduction to NodeJS
- ExpressJS
- MySQL CRUD Operations
- SQLServer CRUD Operations
- MongoDB CRUD Operations

MEAN STACK DEVELOPMENT

- M – MongoDB
- E – ExpressJS
- A – Angular
- N – NodeJS

MERN Stack Development

- M – MongoDB
- E – ExpressJS
- R – ReactJS
- N - NodeJS