Bootstrap Syllabus

Overview: Bootstrap is a free, open source front-end development framework for the creation of faster and easier web development. It uses HTML, CSS and JavaScript. Bootstrap also gives you the ability to easily create responsive designs.

Course Objectives:

➢ Built-in Support for layout, grids, fluid grids, and responsive designs.

➢ Pre-built CSS: Contains global CSS classes for typography, tables, grids, forms, buttons, images,and more

➢ Components: Contains lots of reusable components including Icons, Dropdowns, Navbars,Alerts, and many more.

➢ JavaScript Plug-ins: Contains lots of custom jQuery plug-ins. You can include them all or one by one.

Module 1:-Introduction to Bootstrap

1. What is Bootstrap Framework
   ➢ Bootstrap is the most popular CSS Framework for developing responsive websites.

2. Why Bootstrap

   ➢ Bootstrap provides a range of pre-designed components, such as buttons, forms, navigation bars, and models, which can be easily integrated into your web pages. This means you don't have to spend hours designing and coding these elements from scratch.

3. Advantages of Bootstrap Framework

   ➢ As it is free and open-source, Bootstrap offers web designers a costs-effective option.

   ➢ Bootstrap is easy to learn and implement, making it accessible to both beginners and experienced developers.

   ➢ Responsiveness.

   ➢ Customizable.

   ➢ Cross-browser compatibility.

   ➢ A JS build setup

4. What is Responsive web design?

   ➢ Responsive web design is about creating web sites which automatically adjust themselves to look good on all devices, from small phones to large desktops.

5. Setting up Environment

- ➢ Download Bootstrap from getbootstrap.com
- ➢ Include Bootstrap from a CDN (Content Delivery Network).

Module 2:- Bootstrap Grid

- What is Bootstrap Grid
Bootstrap's grid system uses a series of containers, rows, and columns to layout and align content. Bootstrap's grid system allows up to 12 columns across the page. It's built with flexbox and is fully responsive and the columns will re-arrange automatically depending on the screen size.

  Grid Classes

  The Bootstrap 5 grid system has six classes:

  a. .col- (extra small devices - screen width less than 576px)

  b. .col-sm- (small devices - screen width equal to or greater than 576px)

  c. .col-md- (medium devices - screen width equal to or greater than 768px)

  d. .col-lg- (large devices - screen width equal to or greater than 992px)

  e. .col-xl- (xlarge devices - screen width equal to or greater than 1200px)

  f. .col-xxl- (xxlarge devices - screen width equal to or greater than 1400px)

- **What is Container**

  Containers are the most basic layout element in Bootstrap and are required when using our default grid system. Containers are used to contain, pad, and (sometimes) center the content within them.

  Bootstrap comes with three different containers:

  a. .container, which sets a max-width at each responsive breakpoint

  b. .container-fluid, which is width: 100% at all breakpoints

  c. .container-{breakpoint}, which is width: 100% until the specified breakpoint

  Breakpoints

  Breakpoints are the building blocks of responsive design. Use them to control when your layout can be adapted at a particular viewport or device size.

- **What is Offset Column**

  Column offsetting is used to move or push a column from its original position to a specified width or space. To implement column offsetting we use the '.col-m' class with '.col-offset-n' class which pushes column by n columns.

- **How to Display responsive Images**

  Create responsive images by adding **.img-responsive** or **.img-fluid** class to the <img> tag.

- **What is Bootstrap Typography**

  Bootstrap Typography provides a standardized and flexible approach to text styling, offering various classes for headings, paragraphs, and inline text elements.

- **Typography uses**

  Heading- Font styling resembling a heading, without using the associated HTML element. Use .h1 to .h6 classes on other elements to make them behave as headings.

  Display- Display headings are used to stand out more than normal headings (larger font-size and lighter font-weight), and there are six classes to choose from: .display-1 to .display-6.

  1. .text-start: Indicates left-aligned text.
  2. .text-center: Indicates center-aligned text
  3. .text-end: Indicates right-aligned text
  4. .text-decoration-none: Removes the underline from a link
  5. .text-nowrap: Indicates no wrap text
  6. .text-lowercase: Indicates lowercased text
  7. .text-uppercase: Indicates uppercased text
  8. .text-capitalize: Indicates capitalized text

  <mark> and .mark represents text which is marked or highlighted for reference or notation purposes.

  <small> and .small represents side-comments and small print, like copyright and legal text.
  .text-decoration-underline will apply the same styles as <u>.

  .text-decoration-line-through will apply the same styles as <s>.

- **Bootstrap Tables**
  A basic Bootstrap table has a light padding and only horizontal dividers.
  The **.table** class adds basic styling to a table.

  Use classes to color tables- table-primary, table-secondary, table-light etc.
  .table-striped is used to add zebra-striping to any table row.
  .table-striped-columns is used to add zebra-striping to any table column.

.table-hover class is used to enable a hover state on table rows.

.table-bordered is used for borders on all sides of the table and cells.

.table-hover class adds a hover effect (grey background color) on table rows.

.table-responsive class adds a scrollbar to the table when needed.

- **Bootstrap Form Layout**

    Bootstrap provides three different types of form layouts:

    Vertical Form (default form layout)

    Horizontal Form

    A horizontal form means that the labels are aligned next to the input field (horizontal) on large and medium screens. On small screens (767px and below), it will transform to a vertical form (labels are placed on top of each input).

    Inline Form

    In an inline form, all of the elements are inline, left-aligned, and the labels are alongside. This only applies to forms within viewports that are at least 768px wide.

- **Bootstrap Button**

    Different classes are available in Bootstrap for styling the buttons as well as to indicate the different states or semantic. Button styles can be applied to any element. However, it is applied normally to the <a>, <input>, and <button> elements for the best rendering.

    Bootstrap includes several button variants, btn-primary, btn-outline-secondary, btn-lg, btn btn-outline-secondary, btn-link , btn-outline-success, btn-primary disabled , btn-primary active , .btn-group etc.

- **How display images in different styles like Circle shape etc.**

    The .img-rounded class adds rounded corners to an image,

    The .img-circle class shapes the image to a circle,

    The .img-thumbnail class shapes the image to a thumbnail

- How to display text like muted and warning etc.

- **Bootstrap Colors**

    The classes for text colors are: .text-muted, .text-primary, .text-success, .text-info, .text-warning, .text-danger, .text-secondary, .text-white, .text-dark, .text-body (default body color/often black) and .text-light.

    The classes for background colors are: .bg-primary, .bg-success, .bg-info, .bg-warning, .bg-danger, .bg-secondary, .bg-dark and .bg-light.

Module 3:- Bootstrap Components

- **Components of Bootstrap**

Component	Description
Jumbotron	It simply puts extra attention to particular content or information by making it larger and more eye-catching.
Alerts	It is a popup with a predefined message that appears after a particular action.
Buttons	Customized buttons used to perform an action in forms, dialogue boxes, etc. They come in multiple states, sizes, and predefined styles.
Button group	A group of buttons aligned in a single line, arranged vertically or horizontally.
Badge	A labeling component used to add additional information.
Progress Bar	Used to show the progress of a particular operation with a custom progress bar. It may have text labels, stacked bars, and animated backgrounds.
Spinner	Displays the loading state of websites or projects. Built with HTML and CSS, doesn't require JavaScript.
Scrollspy	Keeps updating the navigation bar to the currently active link based on the scroll position in the viewport.
List group	Displays an unordered series of content in a proper way.
Card	Provides a customizable, extensible, and flexible content container.
Dropdown	Drops the menu in the format of a list of links. Contextual and toggleable overlays.
Navs	Creates a basic and simple navigation menu with a .nav base class.
Navbar	The navigation bar at the top of a website or webpage.
Forms	Used to take multiple inputs at once from the user. Bootstrap has two layouts available: stacked and inline.
Input groups	Extend form controls by adding a button, button group, or text on either side of inputs.

Breadcrumb	Provides the location of the current page in a navigational hierarchy and adds separators through CSS.
Carousel	A slideshow of image or text content built with CSS 3D and JavaScript.
Toast	Displays a message for a small amount of time, usually a few seconds. Alert messages designed to imitate push notifications popular in desktop and mobile systems.
Tooltip	Provides small information about the element/link when the mouse hovers over it.
Popovers	Displays extra information about the element/link when clicked on it.
Collapse	A JavaScript plugin used to show or hide content.
Modal	A small popup window positioned over the actual window.
Pagination	Used to easily navigate between different pages, typically presented as a large block of connected links for accessibility.
Media Object	Used for repetitive and complex components like tweets or blogs. Images or videos are placed/aligned to the left or right of the content.

Try :

a) How to build a Responsive Navbar

b) How to Add Forms and other controls to Navbar

c) How to Fix the position of navbar

Module 4:- Bootstrap Plug-Ins

jQuery plug-ins that extend the features and can add more interaction to created site.

Modals, Collapse, Alert messages, scrollspy etc.