**Theory assignments**

1. What is Bootstrap, and why is it useful for website design?

* Bootstrap is a free, open-source front-end framework.
* It provides ready-made CSS and JS components.
* Helps in making mobile-first, responsive websites.
* Saves time with pre-designed UI elements.
* Ensures consistency across browsers and devices.

1. Explain the Bootstrap grid system and how it helps create responsive layouts.

* Bootstrap grid system is based on **12 columns**.
* Developers divide a row into columns (col-, col-md-, etc.).
* Layout adjusts automatically for screen sizes.
* Supports responsive breakpoints (xs, sm, md, lg, xl).
* Makes page design structured and flexible.

1. List and explain at least three Bootstrap components (e.g., navbar, cards, buttons)

* **Navbar** → Responsive navigation menu for websites.
* **Cards** → Display content in a clean, bordered container.
* **Buttons** → pre-styled clickable elements for actions.
* **Carousel** → Image/content slider (optional).
* **Forms** → Styled input fields and validation support.

1. Explain how modals and carousels work in Bootstrap.

* **Modals** are pop-up dialogs triggered by a button/link (data-bs-toggle="modal").
* They are useful for forms, messages, or alerts without leaving the page.
* **Carousels** create image/content sliders with controls & indicators.
* They use carousel class and data-bs-ride attribute.
* Both rely on Bootstrap’s **JavaScript plugins** for interactivity.

1. Describe the purpose of utility classes in Bootstrap and give examples.

* Utility classes are small, ready-made CSS helpers.
* They provide quick styling without writing custom CSS.
* Examples: text-center (align text), m-3 (margin), p-2 (padding).
* They make design adjustments fast and consistent.
* Used for spacing, colors, display, alignment, etc.

1. Discuss the importance of customizing Bootstrap variables for unique styling

* Bootstrap uses **Sass variables** for colors, fonts, spacing, etc.
* Customizing them helps create a unique brand style.
* Example: changing --bs-primary to match company theme.
* Saves time instead of writing new CSS from scratch.
* Ensures design looks different from default Bootstrap sites.