

QUESTION 1 (52 Marks)

An SME handphone shop named **GadgetPro** wants to expand its reach by creating a business landing page. This website should promote the shop's products, give customers information about the shop and allow them to easily view product details.

The owner emphasized:

- The landing page should be visually attractive with images of products.
- The page must contain product cards to showcase best-selling items.
- Customers should be able to access the page easily from phones and tablets.

Task Description

You are required to construct a responsive landing page for the SME using Bootstrap that includes:

1. Header Section
 - Business name
 - Navigation bar
2. About Section
 - Three-column layout (One side image, one side text description, one side contact details)
3. Products Section
 - At least 4 Bootstrap product cards (image, title, short description).
4. Footer Section
 - Contact information (address, phone, email)
 - Social media links
5. Apply Bootstrap typography, responsive images and utility classes.
 - Ensure the page is fully responsive on desktop, tablet and mobile devices.
 - Use at least two Bootstrap utility classes for spacing (e.g., mt-3, py-4)

QUESTION 2 (48 Marks)

Design a simple calculator form to calculate the total and average mark using Bootstrap and JavaScript. The application must meet the following requirements:

1. **Form Components (Bootstrap)**

- A Bootstrap-styled form
- Input fields to enter student marks (minimum of five marks)
- A Calculate button to process the average

1. **JavaScript Functionality**

- Read marks entered by the user
- Validate input (no empty fields, numbers only)
- Calculate both the total and average mark correctly

1. **Modal Display**

- Use a Bootstrap modal.
- Display both the total and the average mark inside the modal.
- The modal should appear after clicking the Calculate button.

1. **User Experience**

- Clear labels for all input fields
- Proper formatting of the average mark (e.g., two decimal places)
- Display a success message when calculation is complete

[CLO0101, P4, 48 marks]

Bootstrap 5.3 – Class Reference Snippets

1. Layout / Containers / Grid

- **Containers:** container, container-fluid, container-{sm|lg|xl|xxl}
- **Rows and Columns:** row, col, col-{breakpoint}-{1–12}
- **Gaps:** g-0 ... g-5
- **Order:** order-{0–5}, order-{breakpoint}-{0–5}
- **Auto margins:** ms-auto, me-auto, mx-auto, my-auto

2. Display / Visibility

- d-none, d-inline, d-inline-block, d-block, d-flex, d-inline-flex, d-{breakpoint}-none, d-{breakpoint}-block, d-{breakpoint}-flex, etc.
- visible, invisible (visibility helper)
- collapse (for collapsible content)

3. Flexbox

- **Direction:** flex-row, flex-row-reverse, flex-column, flex-column-reverse
- **Wrap:** flex-wrap, flex-nowrap, flex-wrap-reverse
- **Justify Content:** justify-content-start, justify-content-center, justify-content-end, justify-content-between, justify-content-around, justify-content-evenly
- **Align Items:** align-items-start, align-items-center, align-items-end, align-items-baseline, align-items-stretch
- **Align Self:** align-self-start, align-self-center, align-self-end, align-self-baseline, align-self-stretch
- **Gap:** gap-0 ... gap-5

4. Spacing (Margin / Padding)

- **Margin:** m-{0–5}, mt-{0–5}, mb-{0–5}, ms-{0–5}, me-{0–5}, mx-{0–5}, my-{0–5}
- **Padding:** p-{0–5}, pt-{0–5}, pb-{0–5}, ps-{0–5}, pe-{0–5}, px-{0–5}, py-{0–5}

5. Borders & Shapes

- **Borders:** border, border-0, border-top, border-bottom, border-start, border-end
- **Rounded:** rounded, rounded-0, rounded-top, rounded-bottom, rounded-circle, rounded-pill

6. Background Colors

- bg-primary, bg-secondary, bg-success, bg-danger, bg-warning, bg-info, bg-light, bg-dark, bg-white, bg-transparent

7. Text

- **Alignment:** text-start, text-center, text-end
- **Color:** text-primary, text-secondary, text-success, text-danger, text-warning, text-info, text-white, text-dark, text-muted
- **Font Weight / Style:** fw-bold, fw-semibold, fw-normal, fw-light, fst-italic
- **Text Decoration:** text-decoration-none, text-decoration-underline, text-decoration-line-through
- **Truncation / Wrapping:** text-truncate, text-wrap, text-break

8. Components

- **Navbar:** navbar, navbar-expand-{sm|md|lg|xl|xxl}, navbar-light, navbar-dark, bg-light, bg-dark
- **Card:** card, card-body, card-title, card-text, card-header, card-footer, card-img-top
- **Modal:** modal, modal-dialog, modal-content, modal-header, modal-body, modal-footer
- **Dropdown:** dropdown, dropdown-toggle, dropdown-menu, dropdown-item
- **Button Group / Toolbar:** btn-group, btn-group-vertical, btn-toolbar

9. Utilities

- **Position:** position-static, position-relative, position-absolute, position-fixed, position-sticky
- **Placement:** top-0, start-0, end-0, bottom-0, top-50, start-50, translate-middle
- **Overflow:** overflow-auto, overflow-hidden, overflow-scroll
- **Shadow:** shadow, shadow-sm, shadow-lg, shadow-none
- **Accessibility:** visually-hidden (screen reader only)
- **Misc:** stretched-link, ratio, ratio-1x1, ratio-4x3, ratio-16x9, ratio-21x9

10. Button

- **Solid:** btn, btn-primary, btn-secondary, btn-success, btn-danger, btn-warning, btn-info, btn-light, btn-dark
- **Outline:** btn-outline-primary, btn-outline-secondary, btn-outline-success, btn-outline-danger
- **Sizes:** btn-sm, btn-lg

11. Card

- card, card-header, card-body, card-title, card-text, card-footer, card-img-top, card-img-bottom

12. Modal

- modal, modal-dialog, modal-content, modal-header, modal-title, modal-body, modal-footer

13. Nav-bar

- navbar-expand-sm, navbar-expand-md, navbar-expand-lg, navbar-expand-xl, navbar-brand, navbar-nav, nav-item, nav-link, navbar-toggler, navbar-collapse

14. Carousel

- **Core:** carousel, carousel-inner, carousel-item, active, carousel-control-prev, carousel-control-next, carousel-control-prev-icon, carousel-control-next-icon
- **Indicators:** carousel-indicators
- **Caption:** carousel-caption
- **Fade Effect:** carousel-fade
- **Slide Navigation:** carousel-item-next, carousel-item-prev, carousel-item-start, carousel-item-end
- **Responsive / Display:** d-block, w-100
- **Data Attributes:** data-bs-ride="carousel", data-bs-interval, data-bs-wrap, data-bs-pause