

# Assignment -3

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**Semester:** December-April 2026

**Subject:** Skill Development Course-II

**Date:** 22-01-2026 3:00 PM

**Deadline:** 22-01-2026 6:00 PM

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**Topics:** JavaScript Event Handling, Functions, Loops, and Arrays

## Question:

Design and develop a **dynamic and interactive web application** using **HTML, CSS, and JavaScript** that demonstrates the effective use of **DOM and Client Side Validation**.

The assignment must address the following sections and questions.

### Section A: Build a DOM Interactive Webpage

#### 1. Smooth Scroll Navigation

- Create navbar with 3 sections: Home, Gallery and Playground
- Clicking nav items should smooth scroll to the section.

#### 2. Dynamic Text Change

In Home section:

- show heading: "Welcome!"
- add a button: Change Text
- on click → heading changes to "Hello DOM World!"

#### 3. Scroll Animation Reveal

When scrolling down:

- About/Gallery/Contact sections must fade in / slide in (use `classList.add("show")`)

#### 4. Scroll Progress Bar

- Add a progress bar at the top that updates as user scrolls.

#### 5. Image Scrolling / Crousel

In Gallery section:

- add at least 6 images
- implement horizontal scrolling carousel
- include:
  - Prev button
  - Next button

- Smooth scrolling

## 6. Create a new section called **Playground** that contains a ball.

Ball color change

- input: `<input type="color">`
- ball color updates instantly

Ball movement using input

- input: X position slider (Left/Right)
- input: Y position slider (Up/Down)
- ball position updates instantly on screen
- Jump button (ball jumps up and comes down)
- Slide left / right buttons (ball slides smoothly)

## Section B: Client Side Validation

### 1. Create a Faculty and Student registration forms and login pages. Apply proper CSS for all web pages.

- i. **All fields are Mandatory**
- ii. **EmpId-Number-Size (6 digits)**
  - Validations: Check whether entered input is number or not?
  - Number of digits in that number
  - Start the number with 5
- iii. **EmpName-Characters (Size-25)**
  - No Special Characters
  - Size validation
- iv. **Gender-Radio Button**
- v. **DOB-(DD-MM-YYYY)**
  - Validate the age is at least 25 years and above.
  - Age must be less than or equal to 65 years.
- vi. **DOJ-(DD-XXX-YYYY)**
  - Not allow future date.
  - Use proper regular expressions to validate date.
- vii. **MailId**
  - `@,.,Proper Domain(com, in, edu, corp, edu)`
- viii. **Password**
  - Should contain one capital letter, one special character, it should not start with any number.
- ix. **Mobile Number**
  - 10 digits
  - Any character entered