

## ***Web Programming Lab***

### ***Assignment – 7***

#### ***Question 1: Create and Structure an XML Document (Basic XML)***

Create an XML file named **students.xml** with the following requirements:

1. Root element: <college>
2. Inside it, create at least **5 student records**.
3. Each student must have:
  - id (attribute)
  - name
  - course
  - year
  - email
4. The XML document must be well-formed.

#### ***Tasks:***

- Write the complete XML code.
- Ensure proper indentation.
- Open the XML file in a browser and verify its structure.

#### ***Question 2: XML with DTD Validation***

Create a **DTD file** named **students.dtd** to validate the XML file created in Question 1.

#### ***Requirements:***

1. Define elements:
  - college
  - student
  - name
  - course
  - year
  - email
2. Define id as an attribute of student.
3. Link the DTD file to your XML document.
4. Validate the XML document using browser or online validator.

**Tasks:**

- Write the DTD code.
- Modify XML file to link DTD.
- Verify validation.

**Question 3: XML Schema (XSD) Validation**

Create an XML Schema file named *students.xsd* with the following conditions:

1. *id* must be of type string.
2. *year* must be an integer.
3. *email* must follow string type.
4. *course* should be restricted to only:
  - BCA
  - B.Tech
  - B.Sc
  - MCA

**Tasks:**

- Write complete XSD code.
- Link the XSD with XML.
- Validate the XML document.

**Question 4: Parse XML using JavaScript (DOM Parser)**

Create an HTML file that:

1. Loads the *students.xml* file.
2. Uses **XMLHttpRequest** to fetch XML data.
3. Displays student details in an HTML table.
4. Add a button:
  - “Load Student Data”
  - On click, XML data should appear dynamically.

**Tasks:**

- Write complete HTML + JavaScript code.
- Use `getElementsByTagName()` or `querySelector()`.
- Display formatted output in a table.