

**Faculty of Computer Applications and Information Technology**  
**iM. Sc. (IT) – Sem 9**  
**Web Development using MERN Framework**  
**CEC Assignment - 2**

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**Note: Kindly submit your assignment till 19<sup>th</sup> Oct 2025 on the below drive link**

**[https://drive.google.com/drive/folders/1j23mHW\\_gnm019ff0oy3ruLI1uz5ZDNL7?usp=sharing](https://drive.google.com/drive/folders/1j23mHW_gnm019ff0oy3ruLI1uz5ZDNL7?usp=sharing)**

1. Design a Simple Signup Form with fields: Full Name, Email, Mobile Number.
  - Validate that none of the fields are empty.
  - Mobile Number must contain exactly 10 digits.
  - On submission, show the entered data below the form in JSON format.
2. Create an Employee Feedback Form with fields: Employee Name, Department, and Feedback.
  - All fields must be filled before submission.
  - Show an alert “Feedback Submitted” when the form is successfully submitted.
  - Clear all fields after submission.
3. Build a React Router-based app for a College Portal:  
/ → Home Page (college name and motto)  
/courses → List of available courses  
/contact → Contact Form (Name + Email + Message)  
Add a navigation bar and a “Page Not Found” route for invalid URLs.
4. Develop a React Router app for a Restaurant Website:  
/ → Home (Welcome note)  
/menu → List of dishes offered  
/book → Table booking form (Name + Date + Time)  
Include navigation links and a fallback 404 route.
5. Create a simple Todo List using Redux Toolkit to manage tasks.
  - Create a slice todoSlice with an initial state { todos: [] }.
  - Define reducers: addTodo and removeTodo.

- Provide an input field to add a new todo.
  - Display all todos in a list with a delete button beside each.
  - Update the Redux store whenever a task is added or removed.

6. Build a simple theme toggle system using Redux Toolkit to switch between dark and light mode.

  - Create a slice themeSlice with an initial state { darkMode: false }.
  - Define a reducer toggleTheme to change the mode.
  - Add a button to toggle between dark and light modes.
  - Display the current mode on the screen.
  - Change background color based on the mode. (Optional)

7. Build a Temperature Controller App using Redux Toolkit.

  - Create a slice tempSlice with state { temperature: 20 }.
  - Define reducers: increaseTemp and decreaseTemp.
  - Add buttons to increase or decrease temperature.
  - Display the current temperature on screen.

8. Create a Feedback Collector App using Redux Toolkit.

  - Create a slice feedbackSlice with state { feedbacks: [] }.
  - Define reducer addFeedback.
  - Add input fields for Name and Feedback.
  - Display all submitted feedbacks below the form.

9. Create a slice pointsSlice with state { totalPoints: 0 }.

  - Define a reducer addPoints to increase points by a user-entered value.
  - Add an input field to enter the number of points to add.
  - Add a button labeled “Add Points”.
  - Display the updated total points on the screen.

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# MongoDB -

1. Create groceryDB and collection items.  
Insert 5 items with fields: itemId, itemName, price, quantity.  
Perform:
    - a) Display all items.
    - b) Find all items whose quantity < 10.
    - c) Update price of one item.
    - d) Delete one item with quantity = 0.
  2. Create university database and collection faculty.  
Insert 5 documents with: empid, name, department, qualification, salary.

Perform the following operations:

- a) Display faculty of “Computer Science”.
- b) Increase salary by 15% for all “Assistant Professors”.
- c) Delete one record where salary < 30000.

3. Create showroom database with collection cars.

Insert 5 cars having fields: carid, brand, model, price, fueltype.

Perform the following operations:

- a) Find cars where price > 800000 and fuelType = "Petrol".
- b) Change fuelType to “Electric” for brand = "Tata".
- c) Delete a car whose brand = “Tata”.

4. Create school database with collection teachers.

Insert 5 records having: teacherid, name, subject, experience.

Perform the following operations:

- a) Display all teacher data.
- b) Find teachers having more than 5 years of experience.
- c) Update subject of one teacher.
- d) Delete one teacher record.