CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY, (AUTONOMOUS) HYDERABAD- 500 075

COMPUTER SCIENCE AND ENGINEERING DEPARTMENT
Assignment-2

Sub: Web Technologies(22ITC17)   **Max.Marks: 10M**

Section: C1,C2   **Submission date: 24/4/25**

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Develop a full-stack web application that performs CRUD operations using the MERN (MongoDB, Express.js, React.js, Node.js) stack.   **[CO3,4] [BL6]**

Instructions:

Create a Student Management System where you can:

- Add new student records

- View a list of students

- Edit existing student information

- Delete student records

The application should have a clear separation between the **frontend (React.js)** and the **backend (Express.js + MongoDB)**, connected via **RESTful APIs**.

Entities and Fields

1. Student Entity Each student record should include the following fields:

Field Name	Type	Description	Validation Rules
studentId	String	Unique student ID	Required, Unique, Alphanumeric
firstName	String	First name of the student	Required, Min 2 chars
lastName	String	Last name of the student	Required, Min 2 chars
email	String	Email address	Required, Must be valid email format
dob	Date	Date of birth	Required
department	String	Department name	Required, e.g., "Computer Science"
enrollmentYear	Number	Year of enrollment	Required, Between 2000 and current year
isActive	Boolean	Status of enrollment	Optional, default: true

Requirements

Backend (Express.js + MongoDB)

- Set up an **Express server** with **MongoDB** using **Mongoose**.

- Create a **Student model** with the above fields.

- Implement the following RESTful APIs:

    o POST /students - Add a new student

    o GET /students - Fetch all students

    o GET /students/:id - Fetch a student by ID

    o PUT /students/:id - Update student information

    o DELETE /students/:id - Delete a student

Frontend (React.js)

- Create a user interface using **React and React Router**.

- Pages/components required:

    o **Home Page** - Dashboard or Welcome page

    o **Student List** - View all students in a table

    o **Add Student Form** - Form to input new student data

    o **Edit Student Form** - Prefilled form to edit existing student

- Use **Axios or Fetch API** to call the backend endpoints.

- Show alerts/toasts or feedback for actions like create, update, or delete.

Instructions for submitting Assignment:

Submit individual Git Repository link along with project Deployed link in the below spreadsheet.

https://docs.google.com/spreadsheets/d/1Z6lz1ywVpvuP8xmMWRtqlChe_npRMEhh/edit?usp=sharing&ouid=104204939292101749349&rtpof=true&sd=true