CHITKARA UNIVERSITY

Annexure I (For Project Proposal for BEE)

1. **Project Statement:** In the evolving field of online education, there is a need for an efficient platform that facilitates both content management for administrators and seamless access for learners. Current systems often struggle with content organization, user engagement, and accessibility. **Study Notion** aims to address these challenges by providing a unified solution where administrators can easily post and manage lectures, while users can effortlessly browse, purchase, and access educational content, enhancingthe overall online learning experience.

2. **Approximate duration (in hours) to complete the project:**

August

- **Weeks 1-2**: Initial Project Setup & Research
  - Set up the project structure using the MERN stack.
  - Research features and finalize initial UI/UX designs.

- **Weeks 3-4**: Frontend Development - Admin Page
  - Develop the frontend for the admin page using React and Tailwind CSS.
  - Add initial functionalities such as viewing user lists and managing courses.
  - Ensure responsiveness and a consistent UI theme.

September

- **Weeks 1-2**: Backend Development - User Authentication (Login & Signup)
  - Set up the backend structure using Node.js and Express.
  - Implement user authentication with login and signup APIs.
  - Integrate MongoDB for user data storage.

- **Weeks 3-4**: Backend Integration and Testing
  - Test authentication routes and secure them.
  - Integrate the frontend with backend authentication.
  - Basic error handling and debugging for a seamless user experience.

November

Student Dashboard

- **Profile Management**: Students can edit their profile picture and update their profile description to personalize their account.
- **Enrolled Courses**: A dedicated section listing all enrolled courses with easy navigation to course content.
- **Progress Tracking**: Visual indicators (like progress bars) for each enrolled course, showing completion status to help students stay on track.
- **Password Management**: Secure functionality to change passwords, including email verification for added security.
- **Purchase History**: Students can view their past purchases, subscriptions, and invoices to keep track of their expenditures.

Teacher Dashboard

- **Course Creation and Management**: Teachers can create new courses, add or edit course materials, and manage content with ease.
- **Student Performance Overview**: Teachers can view enrolled students' performance metrics and completion rates, giving insights into engagement and effectiveness.
- **Announcements and Updates**: A feature for teachers to post course announcements or updates that are visible to enrolled students on their dashboard

3. Proposed Project In charge: Mr Preenu Mittan.

4. Team Members along with roll no's:

a. Daksh Rana(2210991475)
b. Bhuvan Kumar(2210991448)
c. Devansh Sharma (2210991495)
d. Chirag Mittal(2210991465)

5. Check Points:

- **Does the project statement result in a product? If yes, what type of product?** **Answer** : Yes, the project results in a web-based educational platform designed tostreamline online learning. It allows administrators to efficiently manage and post educational content, such as lectures and courses. For users, it provides a seamlessexperience to browse available courses, make purchases, and access content.

- **If it is a product, can a prototype be made, if not, what is it, which we can produce that our teachers can evaluate? Answer:** Yes, a prototype of Study Notion can be developed. This prototype would include a mock-up of the administrator dashboard for managing and posting courses, as well as a user interface for browsing, purchasing, and accessing educational content. By presenting this prototype, teachers can evaluate its functionality, usability, and overall effectiveness in meeting the needs of both content creators and learners. This hands-onevaluation will help in refining the platform before full-scale development.

- **Does the project statement use multiple concepts to achieve the outcome? (yes/no)? Answer**: Yes, the project statement incorporates multiple concepts to achieve its outcome. It combines content management, user access, and e-commerce functionality into a single web-based platform. Administrators can post and manage educationalcontent, while users can browse, purchase, and access courses. This integration of diversefeatures ensures a streamlined and effective online learning experience.

- **Does it have enough for our team members to do sufficient amount of work? (yes/no)? Answer: Yes,** the project has enough work for multiple team members. The tasks can bedivided among team members based on different modules or components, such as frontend development, backend development, database management, user authentication, and testing. Each member can focus on specific areas, ensuring that everyone has a significant contribution to the project.

6. Technical Nodes

Subject / Area / Topic	Technical Nodes
1. Frontend Development	HTML, CSS, JavaScript, React.js, Tailwind CSS,UI/UX Design
2. Backend Development	Node.js, Express.js, RESTful APIs, Authentication(JWT/OAuth)
3. Database Management	MongoDB, Schema Design, CRUD Operations
4. Search & Filtering	Search Algorithms, Filters (by title, author)

7. Prerequisites (in terms of knowledge, concepts and material) for doing the Project:

Programming Languages:

- Proficiency in JavaScript (for both frontend and backend development).

Frontend Development:

- Understanding of HTML and CSS for structuring and styling web pages.
- Knowledge of JavaScript frameworks like React.js for building user interfaces. Familiarity withCSS frameworks like Tailwind CSS for responsive design.

Backend Development:

- Understanding of server-side programming with Node.js.
- Familiarity with Express.js to create and manage RESTful APIs.

Database Management:

- Knowledge of NoSQL databases like MongoDB, or relational databases like MySQL.
- Understanding of database schema design and CRUD (Create, Read, Update, Delete) operations.

8. Material that may be required to make the project and where it might be available

Development Tools:

- **Code Editor/IDE:**
  - **Tools:** Visual Studio Code, Sublime Text, IntelliJ IDEA download from official websites (e.g., Visual Studio Code).

Programming Languages and Frameworks:

- **JavaScript (for Frontend and Backend):**
  - **Tools:** Node.js runtime, npm (Node Package Manager)
  - **Availability:** Free download from the Node.js official website.

- **React.js:** Available via npm (use `npm install react`).
- **Tailwind CSS:** Available via npm (use `npm install tailwindcss`).
- **Availability:** Documentation and installation guides are available on the official React and Tailwind CSS websites.
- **Express.js:** Available via npm (use `npm install express`).

Database Management System (DBMS):

- **MongoDB (NoSQL Database):**
  - **Tools:** MongoDB, MongoDB Atlas (for cloud database), Mongoose (ODM) ○
  - **Availability:** MongoDB is available for free download on the MongoDB official website.

9. What could the total cost of the project? N/A

10. Resources available to us:

- **Online Tutorials:** Free and paid courses on platforms like Coursera, Udemy, Khan Academy, or YouTube tutorials covering web development, databases, and more.
- **Documentation:** Official documentation for technologies like React, Node.js, Express.js, MongoDB, etc.