**Project Design Phase-II**

**Technology Stack (Architecture & Stack)**

| Date | 26-05-2025 |
| --- | --- |
| Team ID | |  | | --- | |  |   LTVIP2025TMID55498 |
| Project Name | BookNest |
| Maximum Marks | 4 Marks |

**Technical Architecture:**

**BookNest** is designed with a scalable 3-tier architecture consisting of:

* **Presentation Layer (Frontend):** A responsive, user-friendly interface that allows users to browse books, search, add to cart, and place orders seamlessly.
* **Business Logic Layer (Backend):** Handles book search, order placement, user authentication, order management, and admin functionalities.
* **Data Storage Layer:** Secure storage of user profiles, book listings, order history, and reviews.
* The platform also integrates with third-party APIs for email notifications to enhance usability and order confirmations.

**Table-1 : Components & Technologies:**

| **S.No** | **Component** | **Description** | **Technology** |
| --- | --- | --- | --- |
|  | User Interface | Web-friendly, responsive interface for book buyers and admins | HTML, CSS, JavaScript / React Js etc. |
|  | Application Logic-1 | |  | | --- | |  |  |  | | --- | | Book browsing, search functionality, order placement | | Node.js, Express.js |
|  | Application Logic-2 | | Admin panel, provider management, reporting | | --- | | React js, Node js |
|  | Database | Stores user profiles, bookings, provider datas | MongoDB |

| **S.No** | **Characteristics** | **Description** | **Technology** |
| --- | --- | --- | --- |
|  | Open-Source Frameworks | Frontend frameworks | React.js, Node.js, BootStrap, Tailwind CSS |
|  | Scalable Architecture | 3-tier architecture with RESTful APIs | Microservices |

**Table-2: Application Characteristics:**