Project Design Phase
Proposed Solution Template

Date	27 June2025
Team ID	LTVIP2025TMID32116
Project Name	EduTutor AI: Personalized Learning with Generative AI and LMS Integration
Maximum Marks	2 Marks

Proposed Solution Template:

S. No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Traditional education systems lack personalized learning experiences and real-time performance insights, limiting student engagement and tailored instruction. Current platforms also struggle to integrate AI-based adaptive learning and analytics seamlessly with popular educational tools like Google Classroom.
2.	Idea / Solution description	EduTutor AI is an AI-powered personalized education platform that integrates IBM Watsonx and Granite LLM models to dynamically generate quizzes, provide instant feedback, and perform adaptive learning based on a student's diagnostic assessment. The platform synchronizes with Google Classroom to fetch course data, uses Pinecone for real-time analytics, and offers educators comprehensive performance dashboards to monitor student progress and personalize instruction.
3.	Novelty / Uniqueness	The system uniquely combines **adaptive AI quiz generation**, **diagnostic testing**, **Google Classroom integration**, and **vector-based performance tracking** via Pinecone in a single modular, cloud-ready FastAPI platform. It ensures real-time insights for educators and personalized, adaptive learning journeys for students — something not currently offered by mainstream LMS platforms.
4.	Social Impact / Customer Satisfaction	EduTutor AI empowers students by delivering personalized, engaging, and challenging learning experiences, tailored to their progress and needs. Educators benefit from clear, data-driven insights into learner

		performance, helping improve academic outcomes. The platform's integration with widely used tools ensures easy adoption and high satisfaction for both educators and students.
5.	Business Model (Revenue Model)	The solution follows a **freemium SaaS model** — offering essential features for free to students and educators, while premium subscription tiers unlock advanced analytics, adaptive content recommendations, AI-generated learning paths, institutional deployment packages, and certification modules.
6.	Scalability of the Solution	EduTutor AI is built on a modular microservices architecture with FastAPI, cloud deployment readiness, Pinecone vector DB, and scalable AI services via IBM Watsonx and Granite LLM. It can efficiently scale to support large educational institutions, online learning platforms, and edtech startups through distributed, containerized deployments (e.g. Kubernetes, Cloud Foundry).