Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	30 January 2026
Team ID	LTVIP2026TMIDS84978
Project Name	Advancing Nutrition Science through GeminiAI – NutriAssist AI
Maximum Marks	4 Marks

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Web-based interface for food input, meal plan, and coaching	Streamlit (Python-based UI framework)
2.	Application Logic-1	Nutrition analysis logic & prompt creation	Python
3.	Application Logic-2	Meal plan generation logic	Python
4.	Application Logic-3	Virtual nutrition coaching logic	Python
5.	Database	No traditional database used (Real-time processing)	Not Required
6.	Cloud Database	Not used (Stateless AI-based system)	Not Required
7.	File Storage	Temporary image upload for nutrition analysis	Local File System
8.	External API-1	AI-powered nutrition & text generation	Google Generative AI API
9.	Machine Learning Model	Pre-trained generative AI for text & image understanding	Gemini 2.5 Flash
10.	Infrastructure (Server / Cloud)	Infrastructure (Server / Cloud) Application deployment	Local System / Streamlit Cloud / AWS EC2

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Open-source tools used	Python, Streamlit
2.	Security Implementations	API key stored securely in environment variables	.env file, OS environment variables
3.	Scalable Architecture	Scalable Architecture Stateless API-based architecture allows scaling	Cloud deployment (AWS / Streamlit Cloud)
4.	Availability	Available whenever server is running	Web-based access
5.	Performance	Fast response using lightweight Gemini 2.5 Flash model	Google Generative AI