Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Date	08 February 2026
Team ID	LTVIP2026TMIDS65928
Project Name	Intelligent SQL Querying with LLMs Using Gemini Pro
Maximum Marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration & Authentication	Registration through form, Gmail login, LinkedIn login
FR-2	User Confirmation	Email verification, OTP confirmation
FR-3	Natural Language Query Input	User enters natural language question to generate SQL
FR-4	LLM-based SQL Generation	Gemini Pro converts natural language into schema aware SQL query
FR-5	Query Validation & Security	SQL syntax validation,
FR-6	Query Execution	Execute generated SQL query on connected database
FR-7	Result Display & Explanation	Display query results and provide simple explanation
FR-8	Query History Management	Store and retrieve previously executed queries

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	User-friendly interface enabling non-technical users to interact easily.
NFR-2	Security	Secure authentication, encrypted communication, SQL injection prevention.
NFR-3	Reliability	Accurate SQL generation with minimal failure rate.
NFR-4	Performance	Fast response time for query generation and execution.
NFR-5	Availability	System accessible 24/7 with minimal downtime.
NFR-6	Scalability	System capable of handling increasing number of users and large databases.