+Project Design Phase
Proposed Solution Template

Date	19 February 2026
Team ID	LTVIP2026TMIDS62229
Project Name	**Exploratory Analysis of Rain Fall Data in India for Agriculture**
Maximum Marks	2 Marks

Proposed Solution Template:

S.No.	Parameter	Description
1	**Problem Statement (Problem to be solved)**	Farmers, outdoor workers, and common users often struggle to make decisions due to inaccurate or delayed rainfall forecasts. There is a need for a reliable, data-driven system that predicts whether it will rain tomorrow based on historical weather data.
2	**Idea / Solution Description**	A Machine Learning-based Rainfall Prediction System that analyzes weather parameters such as MinTemp, MaxTemp, Rainfall, WindGustSpeed, and Humidity3pm to predict the chances of rain tomorrow. The system is deployed as a web application using Flask for real-time user interaction.
3	**Novelty / Uniqueness**	The system uses trained Machine Learning models (Random Forest / XGBoost) instead of relying solely on traditional forecasts. It provides probability-based results and a simple user interface for easy understanding.
4	**Social Impact / Customer Satisfaction**	Helps farmers plan agricultural activities, supports daily commuters in travel planning, and assists event organizers in decision-making. Improves preparedness and reduces losses due to unexpected rainfall.
5	**Business Model (Revenue Model)**	Freemium model: Basic prediction service is free, while premium features (extended

		forecast, location-based alerts, API access for businesses) can be subscription-based. Potential integration with weather service providers or agricultural platforms.
6	**Scalability of the Solution**	The solution can be scaled by deploying on cloud platforms (AWS, Azure, GCP), integrating real-time weather APIs, adding multiple city predictions, and expanding to mobile applications. The ML model can be retrained with larger datasets for improved accuracy.