Project Design Phase
Proposed Solution Template

Date	27 June 2025
Team ID	LTVIP2025TMID42728
Project Name	Clean Teach: Transforming Waste Management with Transfer Learning
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in the proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Waste in urban areas is often poorly segregated at the source, which leads to ineffective recycling and increased landfill. Manual segregation is time-consuming and often inaccurate.
2.	Idea / Solution description	CleanTech is a web-based AI solution that classifies uploaded waste images into biodegradable, recyclable, or trash using a VGG16 deep learning model integrated with Flask.
3.	Novelty / Uniqueness	Unlike manual systems, our model provides instant classification using image input. It is lightweight, accurate, and easy to scale or integrate into smart waste systems.
4.	Social Impact / Customer Satisfaction	The solution encourages eco-friendly habits, reduces pollution, and promotes smart segregation. It simplifies public participation in waste management using just a mobile image.
5.	Business Model (Revenue Model)	It can be licensed to municipal corporations or smart bin companies. Advanced features like history tracking, analytics, and mobile deployment can be offered as premium services.
6.	Scalability of the Solution	The model can be deployed on web, mobile, or smart bins. With API integration, it can be used by recycling centers, NGOs, and city councils for real-time waste tracking and automation.