Project Design Phase-I
Proposed Solution Template

Date	21 September 2022
Team ID	PNT2022TMID52982
Project Name	Project – Smart Waste System For Metropolitan Cities
Maximum Marks	2 Marks

Proposed Solution Template:

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

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Garbage level detection in bins**.** • Improper waste collection leads to significant land pollution, especially in urban areas. This is due to reduced availability of garbage workers. • This project aims to automate the Garbage collection scheduling and optimize it. • The status of the bins are constantly monitored, along with their location remotely via a Web Application and the data is collected and stored on a cloud platform. • It alerts the admins to empty the bin when they are full.
2.	Idea / Solution description	Main Solution: • The GPS coordinates and the garbage level of the garbage bin will be sent to the IBM IoT platform by developing a python script. • The location of the bins along with bin status can be viewed in the Web Application created using Node-RED service. • This data is stored in Cloudant Database. • It alerts the admin if the bin value crosses the threshold value, i.e., when the bins are full. Additional benefits: • Remote monitoring of the garbage bin location and status.

		• Automated notification sent to admin when Bin is full. • Both of these methods reduce unnecessary human involvement and interference.
3.	Novelty / Uniqueness	• User friendly web application • Completely automated and can be remote
4.	Social Impact / Customer Satisfaction	• Reduction in Land pollution • Reduction in unnecessary travel by Garbage workers
5.	Business Model (Revenue Model)	• It can be used universally to detect garbage levels and give orders to dispose the garbage automatically.
6.	Scalability of the Solution	• User friendly User Interface to notify admins, report problems or provide feedbacks • Improved accuracy using high quality sensors