**Project Design Phase-I**

**Proposed Solution Template**

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| Date | 30 September 2022 |
| Team ID | PNT2022TMIDxxxxxx |
| Project Name | Project – Smart waste management system for metropolitan cities |
| Maximum Marks | 2 Marks |

**Proposed Solution Template:**

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

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| **S.No.** | **Parameter** | **Description** |
|  | Problem Statement (Problem to be solved) | Waste management suffers from a pervasive under-pricing which means that the costs of waste management are not fully appreciated by consumers and industry and waste disposal is preferred over other options. Few waste treatment options are available than landfill costs.  The transformation of an urban habitation into a smart zone consists of multiple parameters for optimal implementation, where primary parameters include technology, data, and people. The genesis of smart cities has evolved from the need of sustainable development and a better future for humankind. The shortcomings and issues associated with the current urban waste management practices can be suitably dealt through the integration of tools such as the ‘internet of things’ (IoT) |
|  | Idea / Solution description | Recycling not only saves energy but also prevents the materials from going to landfills & incineration, and provides raw materials for new products. Installing more bins for collecting recyclables like paper, glass, plastics, etc., and then recycling them can be a huge step. The biggest challenge in the direction of Effective Waste Management is to educate and aware of the masses because in a country with a huge population, the waste management issues can’t be resolved without the proper contribution of its population. Some of the possible measures in this direction could be establishing a proper awareness system, developing policies related to the throwing of waste, etc. |
|  | Novelty / Uniqueness | The Proposed system consists of main subsystems namely Smart Trash System(STS) and Smart Monitoring and Controlling Hut(SMCH). In the proposed system, whenever the waste bin gets filled this is acknowledged by placing the circuit at the waste bin, which transmits it to the receiver at the desired place in the area or spot.  In the proposed system, the received signal indicates the waste bin status at the monitoring and controlling system. |
|  | Social Impact / Customer Satisfaction | Consumers and households play an important role in the generation of waste from the products they consume. As end users they need to reduce, re-use and recycle waste wherever feasible, and dispose of this waste responsibly.A reduction in the number of waste collections needed by up to 80%, resulting in less manpower. |
|  | Business model | When left to their own device people don’t always bother to sort their waste into the proper waste or recycling bins .To help reduce improper recycling sorting. This can lower waste management costs by as much as 80% and drastically improve employee efficiency. |
|  | Scalability of solution | Increasing emphasis on looking at the waste stream is a resource. Companies leverage data to ultimately improve operational performance in many sectors, including waste management. |