Appendix (CEP Mapping)

How P's are addressed through the project and mapping among Ps, COs, and POs

Ps	Attribute	How P's are addressed through the project	COs	POs
P2	Wide-Ranging	• Due to improper methods of garbage collection & dumping thus polluting the environment & also creating ugliness and some serious diseases, at the same time the bad smell is also spread and it also degrades the valuation of that area. This is a real-life problem. • Our main aim was to design an Intelligent Dustbin by detecting and leveling, to keep our environment clean and eco-friendly and we have developed that.	1	l
P1	Depth of Knowledge Requirement:	• The project involves looking at existing models with similar objectives. • Intelligent dustbin control has been performed and implemented using various sensors.	2	b c
P4	Finance	• To implement the Intelligent dustbin project, we have purchased hardware components.	3	k
P3	Obvious solution	• We have built a system called Intelligent dustbin based on IoT. After completing this project we have found that it is working very smoothly.it is very easy to maintain and also very much helpful to keep surroundings hygienic. More importantly it is very much sustainable.	4	g
P6	Diverse Groups	• Here to build this sort of project technological sense must be required. We can take it professionally by making these kinds of projects more and more and selling them to people. It will make our surroundings clean and also create	5	f h

		consciousness among people to use it for a healthy environment that has a social impact. Here our responsibilities are to use it, maintain it and encourage others to use it only for the purpose of making our environment clean and hygienic. ● People of all ages and classes can use the Intelligent dustbin.		
P7	Many components	● We have read multiple papers individually to find the problem. ● The hardware components were collected with the team.	6	i
P5	Development and Tools	● We have made this project very systematically with messaging and levelling systems. We also used a sensor that is for automatically on/off the lid of the Intelligent dustbin. ● We haven't faced much problem creating this project without in messaging system, firstly we haven't got the power supply in the GSM module but at the end of the day, we have solved all our problems. ● Arduino IDE, Arduino Uno, Ultrasonic sensor, PIR Sensor, Servo Motor, GSM Module, LED.	7	c d e
P8	Present Design	● Report prepared and presenting by team.	8	j

How A's are addressed through the project

A's	Attribute	How A's are addressed through the project
A1	Range of resources	The project has to make use of various resources including money, information, electronic components such as Arduino Uno, PIR Sensor, Servo Motor, Ultrasonic Sensor and GSM module.
A2	Level of interaction	The level of interaction among the members of the group was very high during the creation of the architectural design of our project.
A3	Degree of innovation	Knowledge of innovation was required to develop the Intelligent dustbin monitoring system based on IoT.
A4	Consequences For the environment	The intelligent dustbin plays an important role in achieving a clean and hygienic environment.
A5	Familiarity	The project aims to encourage people to put their household garbage into an intelligent dustbin.