

**Project Design Phase-I**  
**Proposed Solution Template**

Date	19 September 2022
Team ID	PNT2022TMID52978
Project Name	Project - Efficient Water Quality Analysis & Prediction using Machine Learning
Maximum Marks	2 Marks

**Proposed Solution Template:**

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	To analyse and predict the water quality efficiently using Machine Learning techniques.
2.	Idea / Solution description	A web application will be created which will predict the quality of water using the water quality index that is calculated after processing the dataset. The data will be trained and tested using python and ML techniques.
3.	Novelty / Uniqueness	Using ML techniques to predict the quality instead of using physical measurements to obtain the quality of water in different places. ML techniques improve the accuracy of measurement over chemical techniques which may not be feasible to obtain all the required features to predict the water quality. Physical and chemical measurements may lead to the usage of expensive instruments. ML techniques make the process easier and feasible.
4.	Social Impact / Customer Satisfaction	Our target audiences are people in suburban areas. Through efficient prediction of water quality in areas where water is not abundant, it helps in identifying water pollution, provides safe drinking water to all, more sanitation facilities will be available and customers tend to manage and use water in an efficient manner that will increase the awareness of water borne diseases and thus reduce their spread. When quality is predicted in an efficient manner, clean water will be available for both domestic and agricultural usage by people.
5.	Business Model (Revenue Model)	More industries that provide sanitation facilities and products (like water purifiers, quality testers etc.) will be put up, more waste water treatment plants, better insights in health concerns and there may also be an increase in awareness and demand for better water quality testing and availability. People will start looking for treatments related to water-borne diseases as the awareness increases.
6.	Scalability of the Solution	The proposed solution is feasible and scalable which can be used both by industries (for testing their raw materials for their process) and even by common people – not as expensive as the physical instruments used to measure the quality of water.