Project Design Phase-I

Team ID	PNT2022TMID30644
Project Name	Project - Real-Time River Water Quality Monitoring and Control System
Maximum Marks	2 Marks

Proposed Solution Template :

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Many rivers and streams are severely polluted all over the world.One of the primary reasons for this is that all three major pollution sources (industry, Agriculture and domestic production) are concentrated.alongside the rivers Cities and industries have Historically, they have been found along rivers.because rivers facilitate transportation and have traditionally been a useful a location for waste disposal Agricultural Activities have traditionally been concentrated.River floodplains are found near rivers. due to the abundance of fertile nutrients that are deposited in the soil as a result of The river is overflowing. As a result, it is essential for us to monitor the quality of Water from the river. The current system for monitoring water quality is a manual system with a repetitive process and takes a long time.

2.	Idea / Solution description	A sensor-based water quality monitoring system is proposed in this project. The main goal is to create a system for remote continuous monitoring of river water quality using wireless sensor networks with low power consumption, low cost, and high detection accuracy. The limits that are analyzed to improve water quality include pH, conductivity, turbidity, and so on. The following are the objectives of idea implementation: (a) Using available sensors in a remote location, measuring water parameters such as pH, dissolved oxygen, turbidity, conductivity, and so on. (b) Gathering data from various sensor nodes and transmitting it to the base station via the wireless channel. (c) To simulate and assess quality.

		quality control parameters (d) Routinely send SMS to an authorized person when the detected water quality does not meet the pre-set standards, so that necessary actions can be taken.
3.	Novelty / Uniqueness	This project not only monitors water quality but also suggests ways to prevent pollution caused by a variety of factors.
4.	Social Impact / Customer Satisfaction	Real-time monitoring of water quality using IoT integrated Big Data Analytics will greatly assist people in becoming aware of the dangers of contaminated water and in stopping pollution of the water. The research is focused on real-time monitoring of river water quality.
5.	Business Model (Revenue Model)	A simple, low-cost water quality monitoring system is proposed. The implementation enables sensors to provide consumers with online data. To generate revenue, we intend to collaborate with authorities and market our product to them.

6.	Scalability of the Solution	This project is concerned with determining the quality of river water parameters. This project can be expanded into a local area's efficient water management system. Furthermore, other parameters not covered by this project, such as total dissolved solids, chemical oxygen demand, and dissolved oxygen, can be quantified.