Project Design Phase-I
Proposed Solution Template

Date	19 September 2022
Team ID	PNT2022TMID23214
Project Name	Project - Real time river water quality monitoring and control system
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)	Due to the fast growing urbanization supply of safe drinking water is a challenge for the every city authority. Water can be polluted anytime.
2.	Idea / Solution description	The availability, affordability, and compatibility with Arduino-based architecture was the main reason for the selection of Atlas Scientific brand of water quality sensors.
3.	Novelty / Uniqueness	A sensor node collects and pre-process data from the electrodes and sends data to the sink node making it as the main building block of the water quality monitoring system (WQMS) prototype. On board, the sensor nodes are commercial electrodes, microcontroller, Zigbee transceiver, and power supply.
4.	Social Impact / Customer Satisfaction	A low-cost water quality monitoring system has been developed which is applicable to a large area of coverage. Its applicability was attributed to its long duration operation, flexibility, and reproducibility. It utilized commercially available electrochemical sensors to monitor water quality parameters accurately and display the result in the web using WSN and GSM technology.
5.	Business Model (Revenue Model)	The system is designed and implemented with its main goal of monitoring water quality (DO, temperature, and pH) with the consideration that the system. It is suitable in a large aquatic area; It can measure and store information in a database in a real-time scenario and has a mechanism system to deliver a timely notification to the managers or authorities and users of the system.
6.	Scalability of the Solution	For a successful construction and installation of a water quality monitoring system suitable for large areas, important factors like buoy stability , energy source and management , data transmission using RF transceiver and sensor sensitivity and ruggedness were considered.