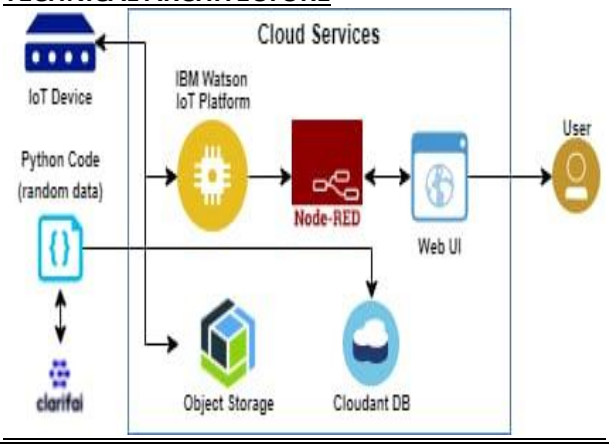
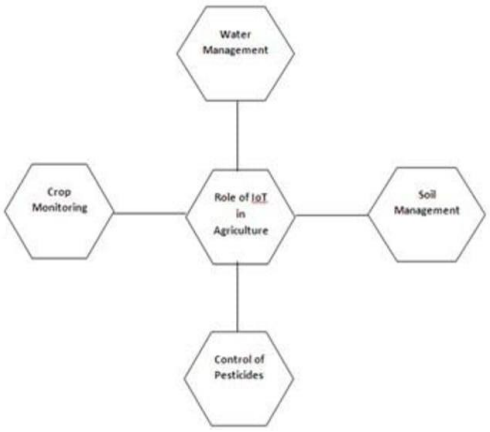
Project Design Phase-I
Proposed Solution Template

Date	29 September 2022
Team ID	PNT2022TMID45497
Project Name	Project - IoT based smart crop protection system for Agriculture
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)	Develop affordable app-based solution for Soil health monitoring and suggest which crop to be sown based on it. (Technology Bucket: IoT, AI, ML etc.)
2.	Idea / Solution description	Create app-based solution to detect soil parameters like moisture content, temperature, relative humidity, nutrient, Ph, CEC, NPK etc. and provide crop suggestions to be produced based on soil parameters & environment values.Bonus Objective: Provide remedies & alerts on soil deficiencies like Watering for low Moisture level, Fertilizers for Nutrient deficiencies **TECHNICAL ARCHITECTURE** 
3.	Novelty / Uniqueness	• Currently farmers follow Traditional Crop yielding pattern and irrespective of soil condition, farmers take routine crops. • Farmers irrespective of whether soil nutrient requirement uses blanket fertilizers for crop.
4.	Social Impact / Customer Satisfaction	Agribusiness required the devotion of numerous regular asset including, land, water, and ecological condition, The quality and amount of characteristic asset has debased throughout the years because of monetary

		issues related with expanded cost of info and diminishing ranch salary always declining land, labor, resources, and environmental issue, for example, soil and water contamination putting the suitability without bounds horticulture operation at chance. 
5.	Business Model (Revenue Model)	● The advent of advanced technologies such as guidance systems, variable rate technology, IoT, AI, and remote sensing has transformed the agriculture industry into a technologically intense and data-rich industry. ● The global agriculture IoT market is estimated to grow from USD 11.4 billion in 2021 to USD 18.1 billion by 2026 at a CAGR of 9.8% during 2021–2026.
6.	Scalability of the Solution	With the help of sensors/ imaginary input create cotton crop health monitoring application which will provide various parameters related to cotton crop like moisture level, nutrient level, pest infection level, maturity/harvesting time etc. and create alert for remedial action.