



# VIVIDHATA



## A BLEND OF IDEAS

(Hackathon)

Prepare yourselves for the beginning of the new year, as the competition has begun, and the group of bright young minds has boarded the next plane to their destination. With the release of the problem statements on our platform this midnight, we are thrilled to officially announce the start of the much-anticipated Vividhata: A Blend of Ideas, a fascinating voyage of ideas.

## PROBLEM STATEMENTS

---

### **PROBLEM 1 : DISASTER MANAGEMENT**

Because it is cleaner than firewood and charcoal, liquefied petroleum gas (LPG) is a popular fuel source, particularly in metropolitan areas. Gas leakage is a serious issue in the industrial sector as well as in residential areas. Because of the rising number of gas leaks, home security has become a serious concern. Gas leakage is a major concern with ateliers, residential areas, and vehicles such as compressed natural gas (CNG), buses, and automobiles that run on gas power. What may be done to avoid such repercussions? Can you build something that can help identify and save lives in the instance that this circumstance arises?

## **PROBLEM 2 : ENVIRONMENT**

Wastewater treatment systems treat water so that it may be safely recycled back into the environment. However, this does not negate the fact that wastewater treatment plants confront their own set of challenges. One of the most pressing concerns facing wastewater treatment plants is energy use. Every year, the process of purifying wastewater consumes between 3% and 15% of the nation's electrical power. That's a lot of processing power going towards filtering. Wastewater treatment is used to filter water in order to make it more environmentally friendly. When wastewater treatment plants treat water, they leave an environmental impact as well. After all, the organic debris that has been removed from the water must be disposed of. Can you suggest a better approach to handling wastewater? Make an effort to solve this issue.

## **PROBLEM 3 : BLOCKCHAIN**

A tree contains a root node from which all other branches sprout; these branches have nodes that serve as root nodes for other nodes. If we keenly observe, we will discover that there is always some sort of connection between the nodes. Likewise, In a world of 7.9 billion people, there should be a relationship between each one of them. Attempt to discover a connection amongst people. Travelling to the root node and then figuring out how to get there could be a solution, or travelling to the neighbour node and then trying to figure out how to get there could be a possible solution as well. Whatever your approach, remember that it should be the optimal.

#### **PROBLEM 4 : AGRICULTURE**

According to the Union government, locust outbreaks in the country have damaged at least 200,000 hectares (ha) of crops across 10 states in the previous two years. The locust invasions that devastated the nation between 2019 and 2021 were the most severe since 1993. Last year, the ministry bought 60 sprayers from the United Kingdom and authorised the use of drones to combat a locust swarm that affected around 50,000 acres spanning the states of Rajasthan, Punjab, Gujarat, and Madhya Pradesh. What remedy will you offer for this issue? Can you devise a method to prevent such damage in the future?

#### **PROBLEM 5 : HEALTH CARE**

We see massive network towers wherever we go. Have we pondered how it affects us? Several studies conducted in many countries—including Germany, Austria, Brazil, Israel, and others—have found an increase in cancer incidence in the 5 to 10 years following exposure to radiation levels of more than 1 mW/m<sup>2</sup>. People who live near cell phone towers have experienced sleep disruptions, headaches, memory loss, lack of focus, exhaustion, joint pains, visual distortion, miscarriage, heart issues, and other symptoms. What can be done to prevent such harm to our health and can an advanced innovation be devised to reduce the use of towers?

**Fasten your seatbelts, and prepare to take off with all of your enthusiasm to discover your potential as the Hackathon is all set to be live and dusted.**

**Best wishes!**