**Project Design Phase-I**

**Proposed Solution Template**

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| Date | 19 September 2022 |
| Team ID | PNT2022TMID19246 |
| Project Name | Project – **Emerging Methods for Early Detection of Forest Fires** |
| Maximum Marks | 2 Marks |

**Proposed Solution Template:**

Project team shall fill the following information in proposed solution template.

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| **S.No.** | **Parameter** | **Description** |
|  | Problem Statement (Problem to be solved) | Forest fires prediction combines weather factors, terrain, dryness of flammable items, types of flammable items, and ignition sources to analyze and predict the combustion risks of flammable items in the forest. |
|  | Idea / Solution description | Fire prevention and control must first consider human factors. Forest–protection policy is an essential part of social policy, and modern forestry is gradually shifting its focus to public fire-prevention education.. |
|  | Novelty / Uniqueness | Forest fires consume forestry resources, and influence trees, vegetation, forest animals and plants, soil, and microbial growth. Forest fires also endanger the life and property of local residents. Fires also adversely influence the ecological system, and can damage ecological balance and cause the degradation of forest communities. Forest fires also cause air pollution. Assessments of fires must consider both economic loss and ecological effects. The assessment of forest fire damage and disaster levels must be objective. |
|  | Social Impact / Customer Satisfaction | Possible future international cooperative studies include [air quality management](https://www.sciencedirect.com/topics/earth-and-planetary-sciences/air-quality-management) and understanding the regional and global impact of [combustion products](https://www.sciencedirect.com/topics/earth-and-planetary-sciences/combustion-product), assessing the influence of forest fire management strategy on the environment and benefits, large-scale monitoring and simulation of the influence of flammable vegetation cover management measures, flammable item mapping and monitoring methods and models for flammable item development and succession, and determining the mutual interaction between fires and other confounding factors. |
|  | Business Model (Revenue Model) | Cost-Effective Technologies for Control of Air Pollution and Atmospher... Forest fire detection system using barrier coverage in wireless sensor... An Improved Deep Learning Model for Early Fire and Smoke Detection on ... A Deep Learning Based Object Identification System for Forest Fire |
|  | Scalability of the Solution | Another alternative technology for detecting forest fires is the use of satellites and satellite images. As a promising alternative, wireless sensor networks (WSNs) are an emerging technology that can be used for forest fire detection and related activities. |