IDEATION PHASE
Define the Problem Statements

Date	08 November 2022
Team ID	PNT2022TMID04190
Project Name	Project – EMERGING METHODS FOR EARLY DETECTION OF FOREST FIRES
Maximum Marks	2 Marks

Problem Statement:

- In earlier times fires were detected with the help of watching towers or using satellite images.
- Satellites collect images and send it to the monitoring authority which will decide by seeing images that it is a fire or not.
- But this approach was very slow as the fire may have spread in the large areas and caused so much damage before the rescue team came.
- In the watching tower method, there was a man always standing on the tower who would monitor the area and inform if there was fire.
- This method was also slow because before the man got to know about the fire it may have spread in the inner parts of forest, also it always requires a man who must be present there.
- Since, we know that some areas, especially forest areas are large so it is practically impossible to put a man in every part of forest from where they can monitor the forest area.
- So, both these approaches of watching towers and satellite images failed to detect fire as early as possible to reduce the damage done by fire Problems in fire detection:
- There were mainly two problems in fire detection as discussed:

  (a). Judging criteria for the fire: Edge is set, on the off chance that the worth is more noteworthy than edge, it is a fire, else not. So, this problem was removed by using machine learning techniques by many researchers.

  (b). Connection of nodes: Traditional systems used cables to connect alarm with the detectors. Cable was mainly of copper. But copper wire may be costly or it can suffer from fault in the mid-way. So, this problem was removed using wireless sensor networks.
- So, with the advancement in technology researchers find an efficient method to detect forest fire with the help of Wireless Sensor Network.
- Fire can be identified by conveying sensor hubs in timberland regions by which they illuminate about fire.
- Conveying sensor hubs in the timberland regions means placing sensors in every part of the forest and mostly in the prone areas where risk of 9 catching fire is more. With the use of wireless sensor networks, now it is easy to detect the fire in large areas as soon as possible.