# IFET COLLEGE OF ENGINEERING
# DEPARTMENT OF INFORMATION TECHNOLOGY
# IFET MINDSPARKATHON 2019
# HACKATHON PROBLEM STATEMENTS

**Software Mobile App Development**

1. The cultivation of medicinal and aromatic crops can help in doubling the farm income. However, the growth of this agriculture sector requires intensive knowledge dissemination and hand holding of the farmers at various stages. This smartphone app should aim to bridge the knowledge gap between the farmers, entrepreneurs and industries in the areas of agriculture, processing and market availability for fueling the growth of medicinal and aroma industry and rural employment. This app should enable the user to capture the geo coded medicinal and aromatic plant related data to be uploaded in the central server, which in turn can be used by the subject matter specialist to provide suitable advisory on near real time basis. The app should also provide a buyer/seller corner with a moderator to provide a virtual platform for the buyers and sellers. It would help in removing the intermediaries and in turn increase the profitability to the farmer and industry.

2. Development of mobile app for deep sea fisherman. The mobile app should help the fisherman to see the sea surface temperature, weather and also helps the fisherman knowing the wind speed direction and wave heights. The app should also include information like GPS indicating real time position, movement and distance covered by the vessel and should provide means of communication so that the fisherman are able to have regular contact with other boards and shore for their safety.

**Smart Communication**

➢ **Vision based system for sensing of railway tracks**

These days the damaging of railway tracks has been causing immense accidents and loss of lives. The system to be developed with the help of computer vision and Internet of things based methods to detect any anomaly on the railway tracks. The solution should comprise of sensors which can keep tab on the railway tracks and the consolidated picture can be seen at a local and global surveillance shelter. Besides sensor based surveillance the solution should also be camera based and video based surveillance systems to monitor the railway tracks and detect anomalies within a buffer area of the railway tracks. This solution should be able to identify/track railway tracks health index and any deterioration must be accompanied by alerts and alarms and the geo location of the tracks. Sensors needs to be installed on the tracks and internet based surveillance of tracks shall be developed.

**Robotics and Drones**

**1. Drone/Robot based system for cleaning between tracks**

It is seen that waste is strewn in station yards and along the tracks particularly in populated areas. Picking up the waste manually is time consuming and also poses safety risk. A Drone/Robot based system for cleaning between tracks needs to be developed.

**2. Drone based medical facility**

Use drones to deliver critical medicines, blood, blood derivatives to rural health centres. The drones should autonomously perform the delivery and return back to the base.

**Waste Management**

**A smart dustbin for wet & dry waste**

Cleanliness of surroundings leads to a healthy environment which in turn leads to a healthy family and healthy individual. As the technology is rapidly growing no one is interested in manually managing the sewage and waste system. Develop a smart bin system which is capable of segregating the dry and wet waste automatically without any human intervention.

**DEPARTMENT COORDINATOR**          **HOD**          **DEAN ACADEMICS**