IFET COLLEGE OF ENGINEERING
DEPARTMENT OF EEE
EXTERNAL SYMPOSIA – HACK ELITE '19

LIST OF PROBLEM STATEMENT

- **Power Customer Interaction**
  The realization of the power consumed dawns up on the customer only when they see the bill for the month. Through AMI/Smart grid the customer pattern to be sent to the customer so that he is aware of his consumption pattern and would take appropriate measures to reduce unwanted energy consumption.
  Outcome: Software which will generate customer usage pattern.

- **Accurate daily Load forecasting**
  An accurate and convenient short-term load forecasting (STLF) system, which helps to increase the power system reliability and reduce the system operation cost. In the modern electricity market, the energy trade and the spot price establishment are based on a precise load forecasting result.
  Outcomes: Distribution utilities and power generators.

- **Power / Water consumption in the offices, schools, hostels and facilities**
  The Department have various offices, schools, hostels and other facilities spread across the state in India. To run these facilities the department spends huge amount of money for power and water consumption. It becomes difficult for the department to keep a close watch on the power and water consumption manually due to which the department faces a huge loss directly which they can utilize in making the life of underprivileged better. Ideas may be sought wherein the technological solution can be identified to stop unnecessary power and water consumption due to manned errors.

- **Monitoring of electricity at household level**
  1) Data collection
  2) Messaging
  3) Electricity Map
  4) Feeder level
  5) Flash Reasons
  6) Power Users
  7) Auto Detection of Location and Asset Mapping on GIS

- **Smart irrigation system for Indian agriculture**
  Controlled and precise irrigation is one of the biggest problems of Indian agriculture sector. Automation can help attain the optimum utilization of water, which is a scarce resource. A project idea must be proposed to control the irrigation devices based on real time water level in ground and considering other natural factors like rain, humidity etc.

- **Programming for Home automation to control electric appliances**
  Consider a Home automation system where one can control electric appliances such as lights, fan, AC etc, with help of their smart phone. Software should include three networks as follows: Internal network which can operate appliances while user is in his house/Flat with or without any access of internet. Internal network in building which can operate and access appliances of whole building. Globally controlled network which can operate appliance when user is at far distance from their house via internet. A solution with economic viability and with minimum cost would be appreciable.