

# AAVARTAN 2017

## **VIGYAAN PROBLEM STATEMENTS 2017**

### **ELECTRONICS AND TELECOMMUNICATION ENGINEERING**

**Problem Statement 1:** Anytime any place remote monitoring of students attendance using SMS service .

**Abstract:** Attendance records are necessary to conclude and authenticate students as well as employees of organization. Propose a model that used GSM SMS service to send message to parents about the students' detail & achieves remote real-time data monitoring, providing several advantages over conventional method of taking attendance in class.

**Problem Statement 2:** Automatic public tap control system to prevent wastage of water.

**Abstract:** Now-a-days, due to increase in population, the usage of water has exceeded in metros and in rural areas. At public taps, once the container is filled, no one takes care to close the tap. Design a user friendly & low cost automatic public tap control used to prevent wastage of water from public taps. The model must also contain different alerting systems for preventing the wastage of water.

**Problem Statement 3:** High sensitivity low power electronic ear.

**Abstract:** Normally, hearing aid circuits consume battery power continuously once they are switched on .Propose a simple to use model, designed to save battery power consisting of facility for the user to control 'on' time duration of the sound amplifier. The circuit must use only a single condenser mic for sound detection and amplification.

**Problem Statement 4:** RFID based face image retrieval system using MATLAB.

**Abstract:** The conventional ID password system fails at stop the theft in industries. In biometrics basic traits of human is matched to the existing data and depending on result of matching identification of a human being is traced. Propose a new approach with multi biometric system for industrial security applications using both the facial features and ID card of the persons using RFID so that the person entering in to the room after swiping of RFID the person image is displayed on the system screen automatically. Use of market available hardware is not preferred, instead make the components using basic components and IC's.

### **Problem Statement 5 : Sun Tracking Solar Panel.**

**Abstract:** As the non-renewable energy resources are decreasing, use of renewable resources for producing electricity is increasing. People have already started installing solar panels in their homes. In order to absorb energy to maximum extent, the solar panels should continuously rotate towards the direction of sun. You are supposed to prepare a model of it and explain it's working.

### **Problem Statement 6 : Mobile Charger Using Solar Energy For Rural Areas.**

**Abstract :** As we are observing, these days solar energy is becoming popular and it's applications are increasing day by day. You are required to develop a circuit with low cost equipment with which solar energy can be used for charging mobile phones and many other electronic gadgets which are very essential in our daily life.