

**AAVARTAN'19**



## **VIGYAAN PROBLEM STATEMENTS**

**(Bio Technology Department)**

### **1. Turn Plants into Biofuel with the Power of Enzymes**

Are biofuels the wave of the future? People often talk about these plant-derived fuels as a way to someday cut down on our dependency on non-renewable carbon-based fuels, like gasoline.

### **2. Transforming Bacteria to Make Colored Pigments**

Can bacteria be altered to produce life-saving insulin for diabetics? Or change color to indicate the presence of a harmful toxin? Yes, it can! Using biotechnology, scientists work daily on problems like these.

### **3. Detecting Pathogens in Sewage Sludge: Device that can rapidly report on the fertilizing quality and safety of heat-treated sewage sludge**

### **4. Environmental Waste Management through Microbial Fuel Cell.**

### **5. Fingerprint Sensor with an Arduino or an ESP How to connect a fingerprint sensor to an Arduino or NodeMCU, then store and read fingerprints**

### **6. Automated Plant Watering System: A Device That Waters Plants And Monitors Temperature Using an ESP8266 and Android App**

## **7. Sensor for Mercury and Lead Detection in Water**

## **8. Smart Garbage Monitoring System Using Arduino 101**

A method in which waste management is automated. An Innovative System That Will Help Keep the City Clean and Healthy

## **9. Microbial Bioreactor**

An open microbial bioreactor for growing cultures of about 1L.

## **10. Developing a Low-Cost Micro-centrifuge Using E-Waste**