# SNS COLLEGE OF TECHNOLOGY

**An Autonomous Institution**
**Coimbatore – 35**

Accredited by  NBA – AICTE  and Accredited by  NACC – UGC  with 'A+  Grade
Approved  by AICTE , New Delhi and Affiliated to Anna University , Chennai.

# DEPARTMENT OF AGRICULTURE ENGINEERING
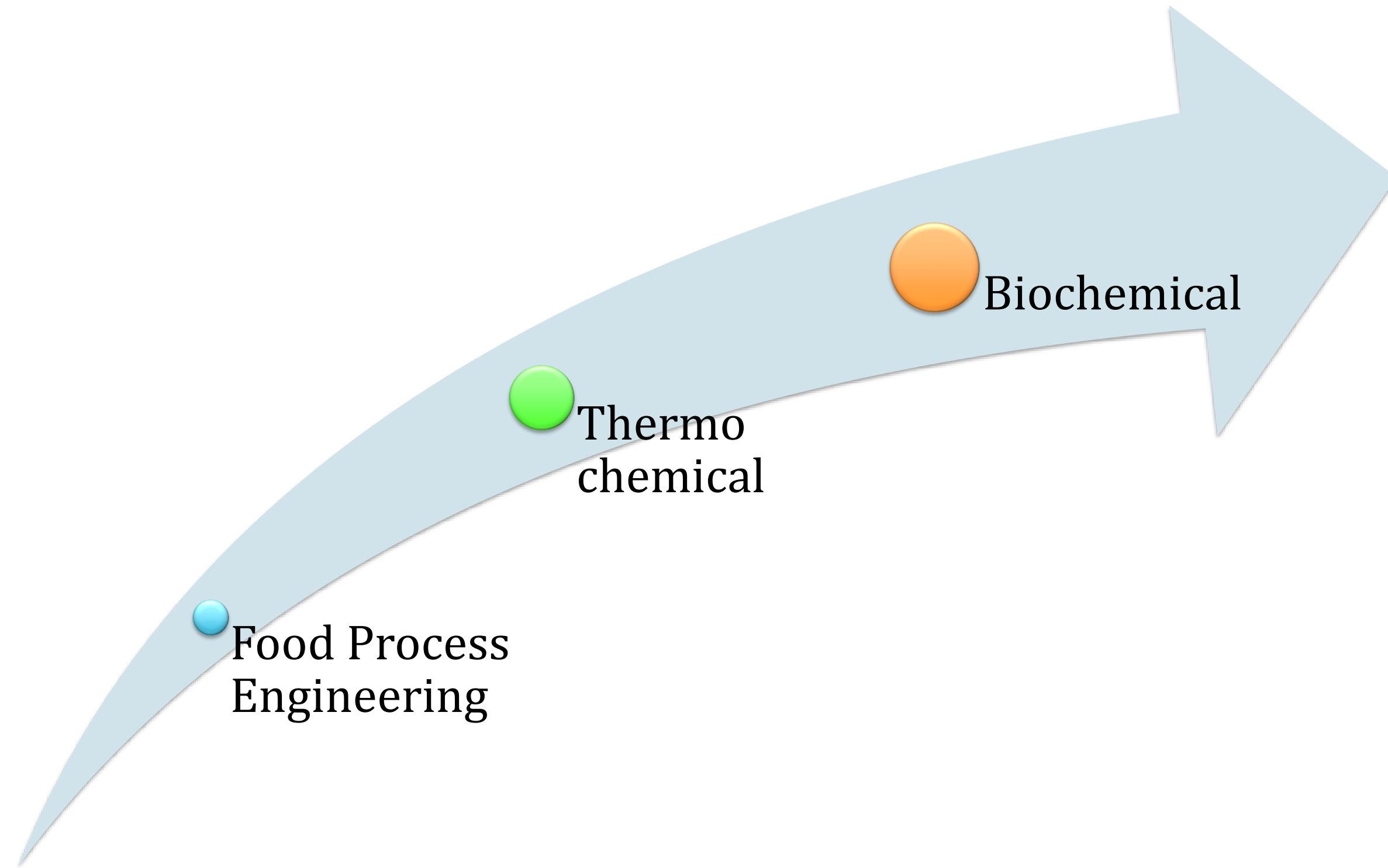
## 19AGT203 – AUTOMATION TECHNIQUES IN AGRICULTURE ENGINEERING

## II – YEAR  IV SEMESTER

## UNIT 3 – SENSORS AND THEIR APPLICATIONS

## TOPIC 1–  TYPES OF SENSOR

# Last Class Review



Food Process Engineering

Thermo chemical

Biochemical

# Sensor

❖ A sensor is a device that can sense the measured information and transform it into an electrical signal or other required forms of information output according to a certain rule to meet the requirements of information transmission, processing, storage, display, recording, and control.

❖ With the development of the Internet of Things technology, sensors are gradually applied to more and more industries such as agriculture and industry.

# List of Agriculture Sensors!!!

| | |
|---|---|
| Air Temperature and Humidity Sensor | Soil Moisture Sensor |
| Illumination Sensor | Co2 Sensor |

# Air Temperature Sensor !!!



- ❖ Can monitor the air temperature and humidity changes in the agricultural planting environment
- ❖ The default temperature and humidity monitoring ranges are -40℃~+80℃ and 0%RH~100%RH

# Soil Moisture Sensor….

❖ Soil moisture sensor measures the volume percentage of soil moisture by measuring the dielectric constant of the soil.
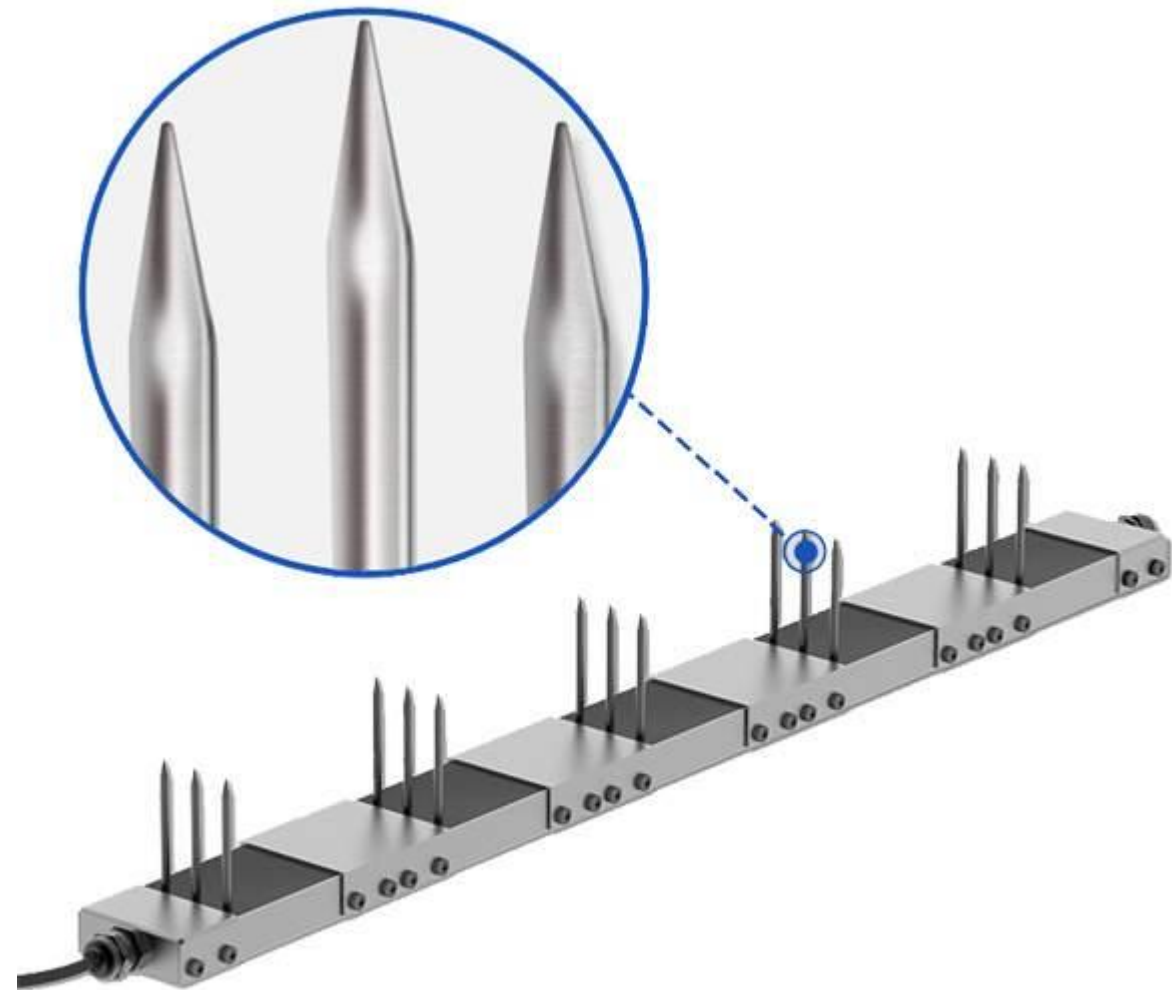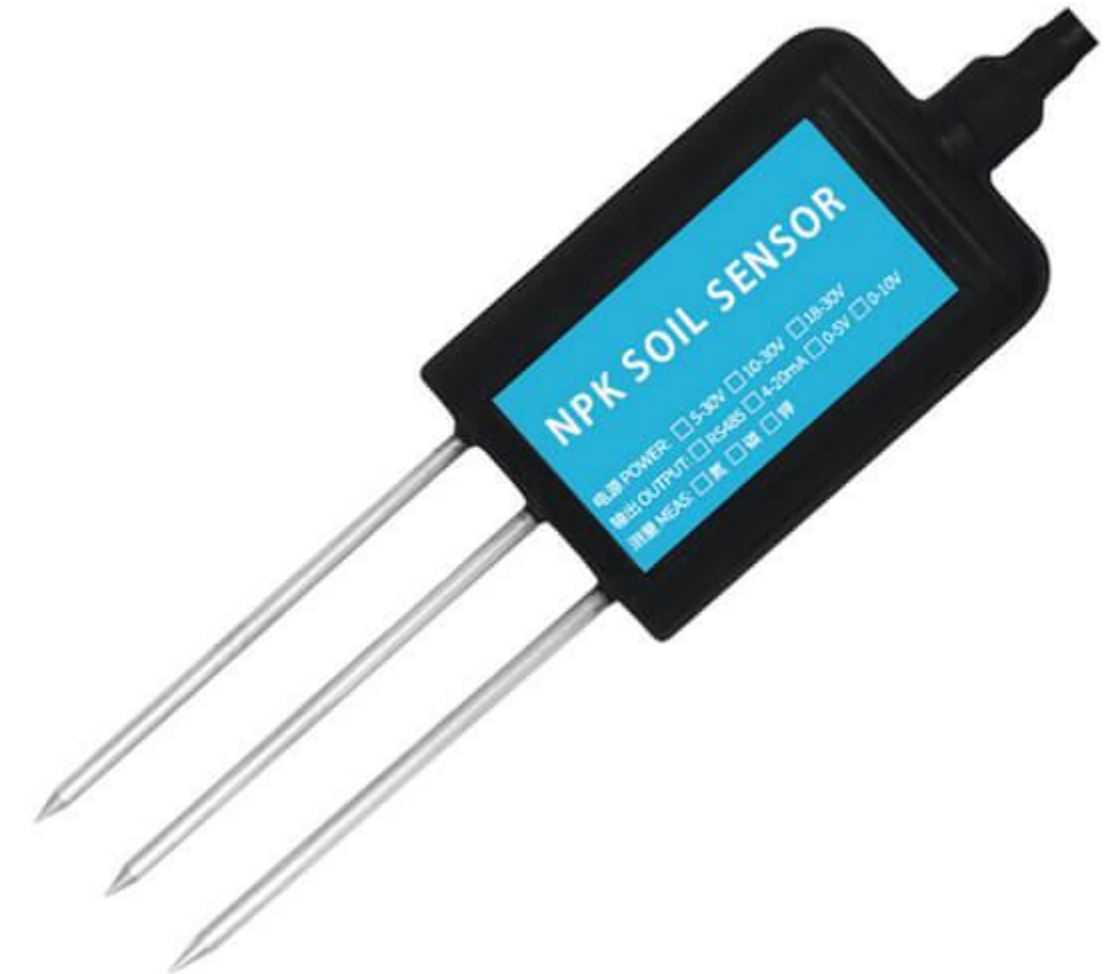
# Different Sensors!!!



**Multilayer Soil Sensor**

**Soil Tensiometer**

**NPK Soil Sensor**

# Illumination Sensor



Photosensitive ball application

0~65535Lux

0~200,000 Lux

www.renkeer.com

illuminance sensor

Agricultural illuminance sensor

❖ Quickly monitor the light intensity of 0 to 200,000 Lux with a very short response time

# CO2 Sensor!!!



CO2 sensor   CO2 temperature humidity sensor   Wireless CO2 sensor

www.renkeer.com

❖ Uses a new infrared verification technology to measure the CO2 concentration in the environment.

❖ The response is quick and sensitive, avoiding the life and long-term drift of traditional electrochemical sensors; the default measurement range is 0~5000ppm, with temperature compensation, which is affected by external Temperature influence is small.

**See You at Next Class!!!!**