



SNS COLLEGE OF TECHNOLOGY

Coimbatore-35
An Autonomous Institution



Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A++' Grade (Cycle III)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

SMART IOT APPLICATIONS

III YEAR/ V SEMESTER

UNIT 3 –SMART INDUSTRIAL AND AGRICULTURAL APPLICATIONS

TOPIC-8 AGRICULTURAL: GREEN HOUSES, GOLF COURSES



IoT for Greenhouse Management



1

Temperature Control

Maintain ideal growing conditions.

2

Humidity Monitoring

Prevent mold and optimize plant health.

3

Lighting Automation

Ensure proper illumination for photosynthesis.





Real-Time Monitoring in Greenhouses



Sensor Network

Measuring soil, air, and environmental factors.



IoT Integration

Automated control and reporting for efficiency.

Data-Driven Decisions

Optimize growing conditions for higher yields.



IoT for Golf Course Management



Water Conservation

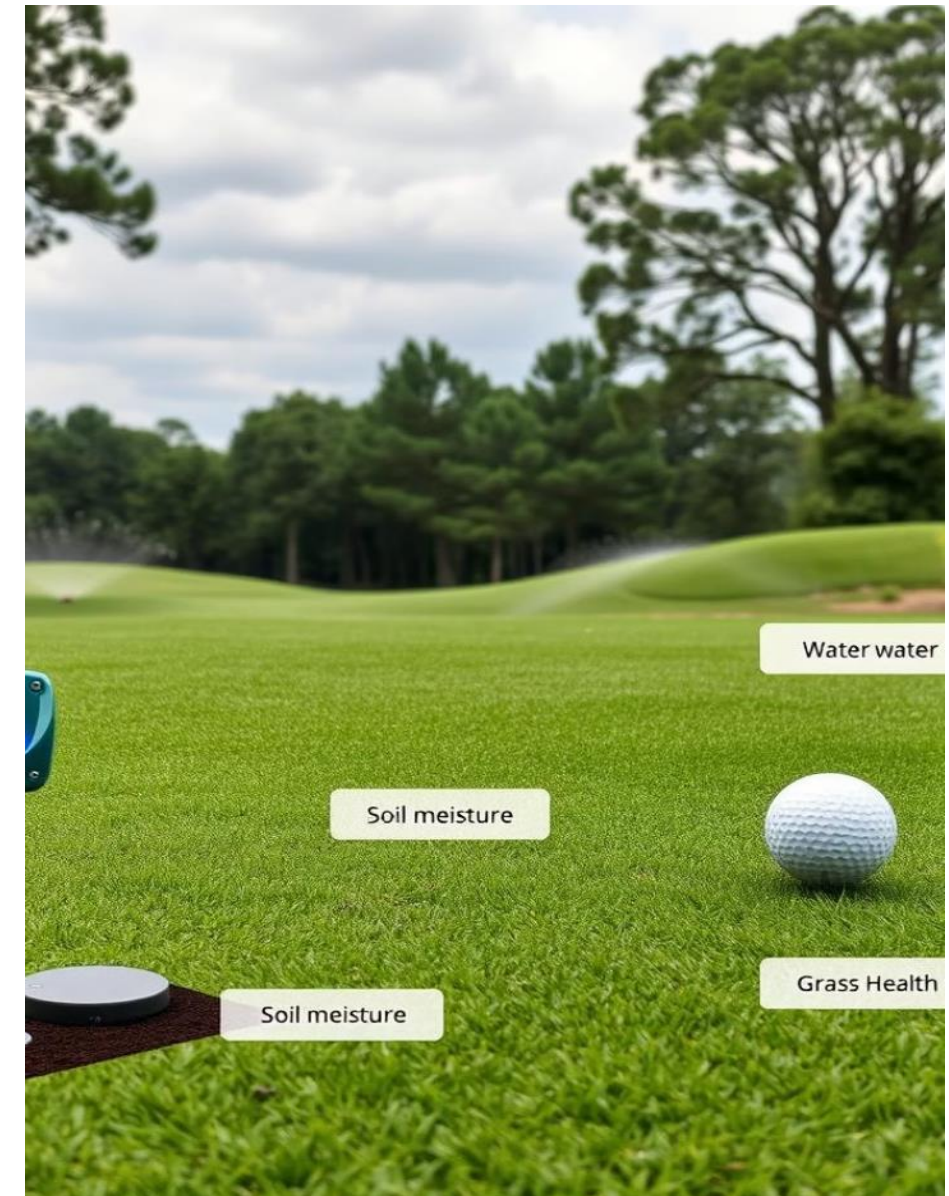
Automated irrigation based on soil data.

Grass Health

Monitoring nutrient levels and growth.

Maintenance Optimization

Data-driven decisions for efficient upkeep.





Smart Irrigation Systems on Golf Courses



1

Soil Monitoring

Real-time data on moisture levels.



2

Weather Forecasting

Adjust irrigation based on predicted conditions.

3

Automated Control

Optimize water usage and conservation.



IoT for Meteorological Station Networks



1 Localized Forecasting

Accurate predictions for specific areas.

2 Farming Applications

Optimize planting, irrigation, and harvesting.

3 Early Warning Systems

Detect and prepare for adverse conditions.





Weather Data Collection and Analysis



Temperature

Monitor air and soil temperatures.



Humidity

Track moisture levels in the air.



Wind Speed

Measure air movement and patterns.



Precipitation

Monitor rainfall, snowfall, and more.



IoT for Compost Management



Tracking Decomposition

Monitor compost quality in real-time.



Improving Soil Health

High-quality compost enhances soil fertility.

Optimizing Conditions

Adjust aeration and moisture for better results.



Smart Composting Systems



1

Sensor Integration

Monitor temperature, moisture, and more.

2

Automated Control

Maintain optimal decomposition conditions.

3

Data Analytics

Improve compost quality over time.





The Future of IoT in Agriculture



1 AI Integration

Leverage machine learning for predictive analysis.

2 Drone Surveying

Aerial data collection for large-scale monitoring.

3 Advanced Sensors

Highly accurate, granular environmental measurements.



Assessment



1. Explain how IoT systems are used in greenhouse management to control environmental factors like temperature, humidity, and light. What are the benefits of using IoT in greenhouse farming?
2. Discuss the role of IoT in maintaining golf courses. How do IoT sensors help in water management, and what impact do they have on the overall maintenance of the course?
3. How does an IoT-enabled meteorological station network benefit agricultural planning?
Describe how farmers can use weather data from these stations to make informed decisions.
4. What are the key parameters that IoT sensors monitor in compost management? Explain how real-time data from these sensors helps in improving the composting process.



THANK YOU