



SNS COLLEGE OF TECHNOLOGY

Coimbatore-35

An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with
'A++' Grade

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Chennai



DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

19ECE306- SMART IoT APPLICATIONS

III ECE / V SEMESTER

UNIT 3 – SMART INDUSTRIAL AND AGRICULTURAL APPLICATIONS

TOPIC 1 –Logistics: Quality of Shipment Conditions



Quality of Shipment Conditions



In logistics, Quality of Shipment Conditions refers to ensuring that products, especially perishable or sensitive goods, are maintained in ideal environmental conditions throughout their journey from origin to destination.

Factors like temperature, humidity, pressure, and shocks can significantly impact the integrity of goods, especially perishable items or sensitive electronics.

IoT (Internet of Things) plays a vital role in monitoring these conditions in real-time using various sensors embedded in shipment containers, trucks, or packaging.



Quality of Shipment Conditions- Factors - Temperature



What It Is: Temperature monitoring ensures that goods like food, pharmaceuticals, chemicals, and sensitive electronics are transported at a stable temperature, particularly when refrigeration is required.

Why It's Important:

Food: Perishable items like fruits, vegetables, dairy, and meat require specific temperature ranges to avoid spoilage.

Pharmaceuticals: Medicines, vaccines, and biological samples can lose potency or become ineffective if exposed to temperatures outside their recommended storage conditions.

Electronics: Excessive heat or cold can damage sensitive electronic components.



Quality of Shipment Conditions Factors - Temperature



How IoT Helps:

IoT sensors are placed within containers or packages to continuously monitor internal temperatures.

If temperatures rise above or fall below preset thresholds, the system sends alerts to logistics managers.

Immediate action, such as adjusting refrigeration or rerouting the shipment, can prevent damage or spoilage.



Module 1- Basics of IoT



1.1 Introduction to Internet of things



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