

SNS COLLEGE OF TECHNOLOGY

Coimbatore-35
An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with ‘A++’ Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai



DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

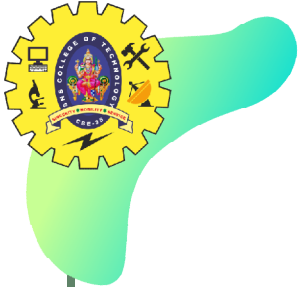
19EET304/ IOT for Electrical Sciences

III YEAR VI SEM

UNIT 3 COMMUNICATION INTERFACE

TOPIC 2 – PLC, ZIGBEE, GSM, LOCAL AREA NETWORK (LAN)

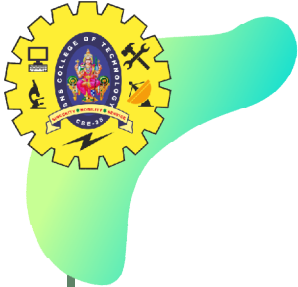




PROGRAMMABLE LOGICAL CONTROLLERS

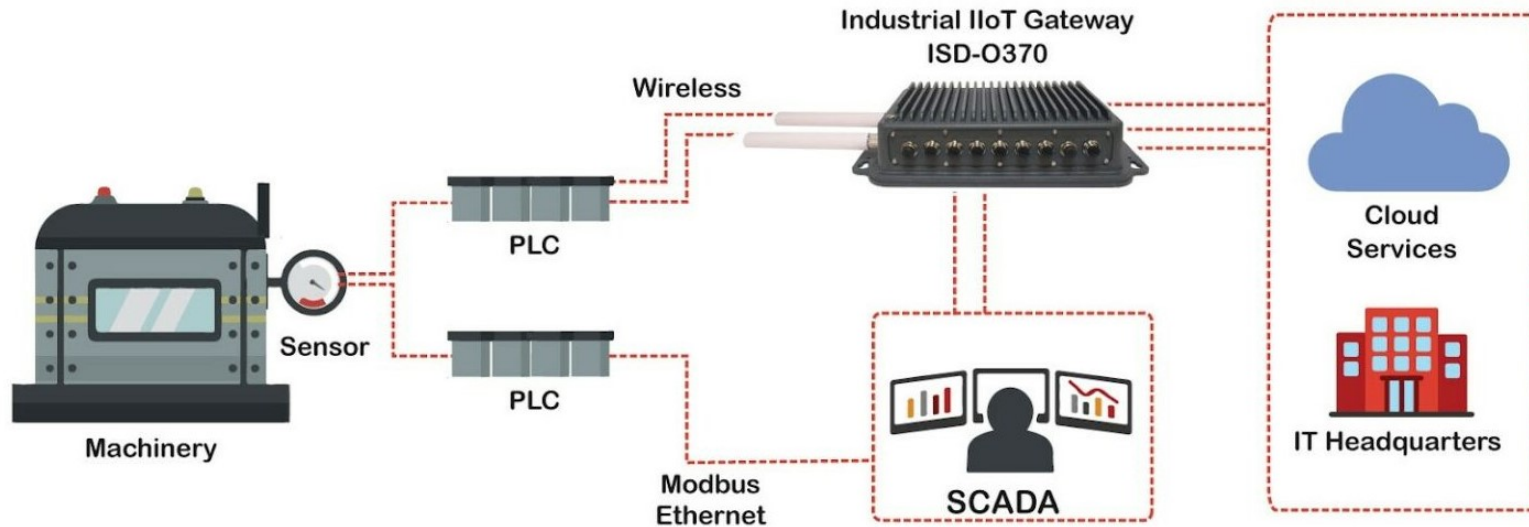
Programmable Logical Controllers (PLCs) are present in almost all modern industries. Although they come in many shapes and forms, they have one goal: to control, measure, and carry out tasks in real-time within complex industrial applications.





INTEGRATING PLC WITH IIOT WITH INDUSTRIAL IOT GATEWAY

Integration of PLC with Industrial IoT

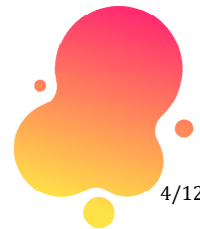
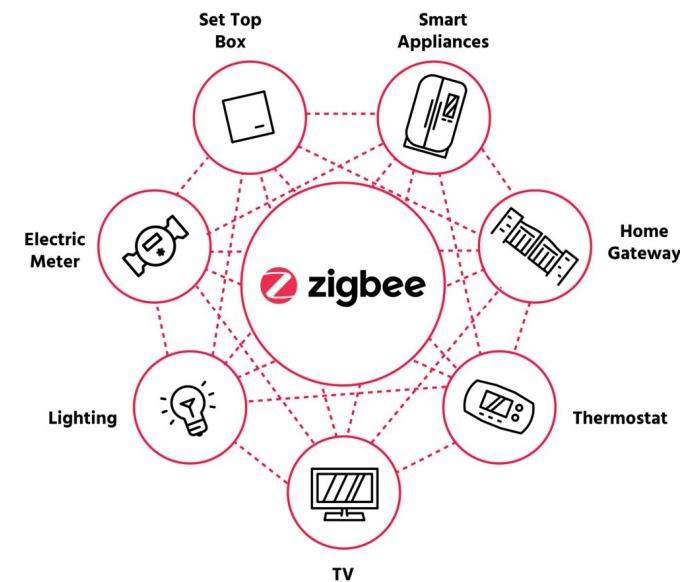


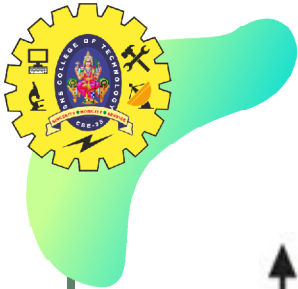


WHAT IS ZIGBEE?

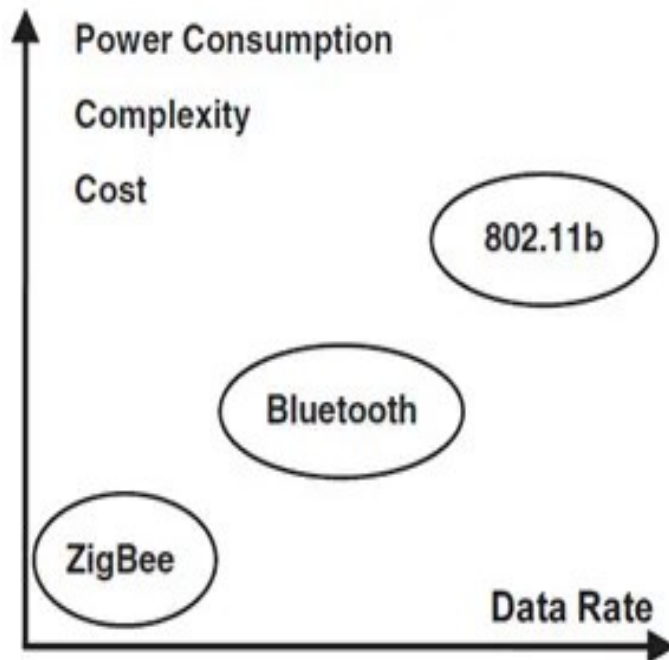


ZigBee is a wireless technology standard that provides a set of communication protocols for **short-range communications**. It is an open-source global standard developed by Zigbee Alliance to address the needs of **low-cost, low power** wireless IoT networks. The protocol is used in **low data rate**, short to medium range wireless networking devices like **senors and control** networks.



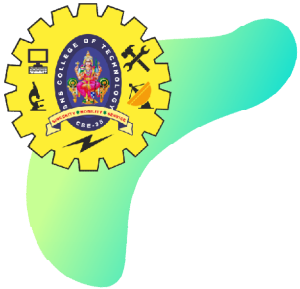


ZIGBEE VS BLUETOOTH



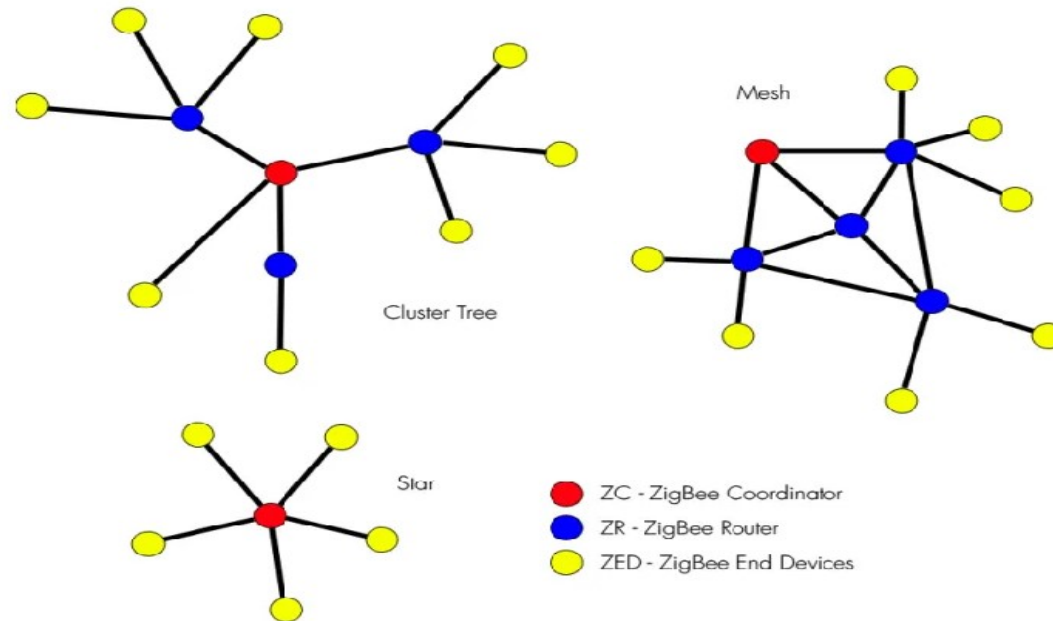
	Data Rate	Typical Range	Application Examples
ZigBee	20 to 250 Kbps	10–100 m	Wireless Sensor Networks
Bluetooth	1 to 3 Mbps	2–10 m	Wireless Headset Wireless Mouse
IEEE 802.11b	1 to 11 Mbps	30–100 m	Wireless Internet Connection

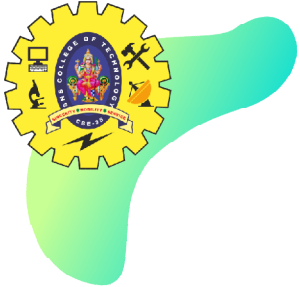




ZIGBEE TOPOLOGIES

ZigBee Topologies

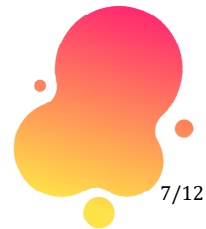
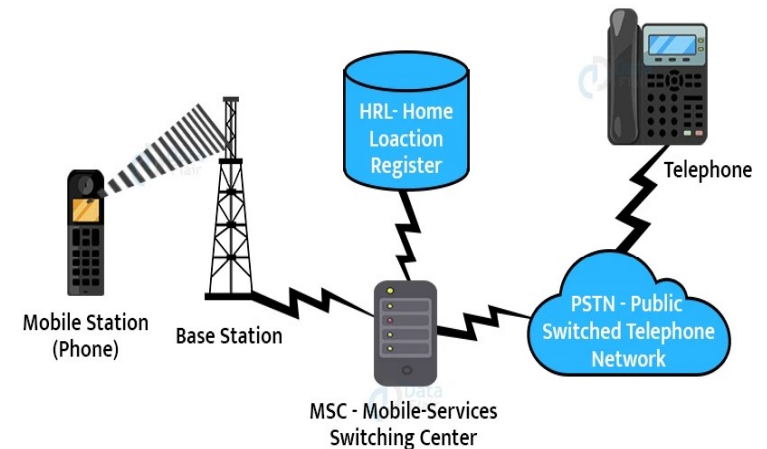


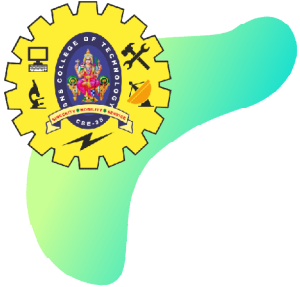


WHAT IS GSM FOR IOT?



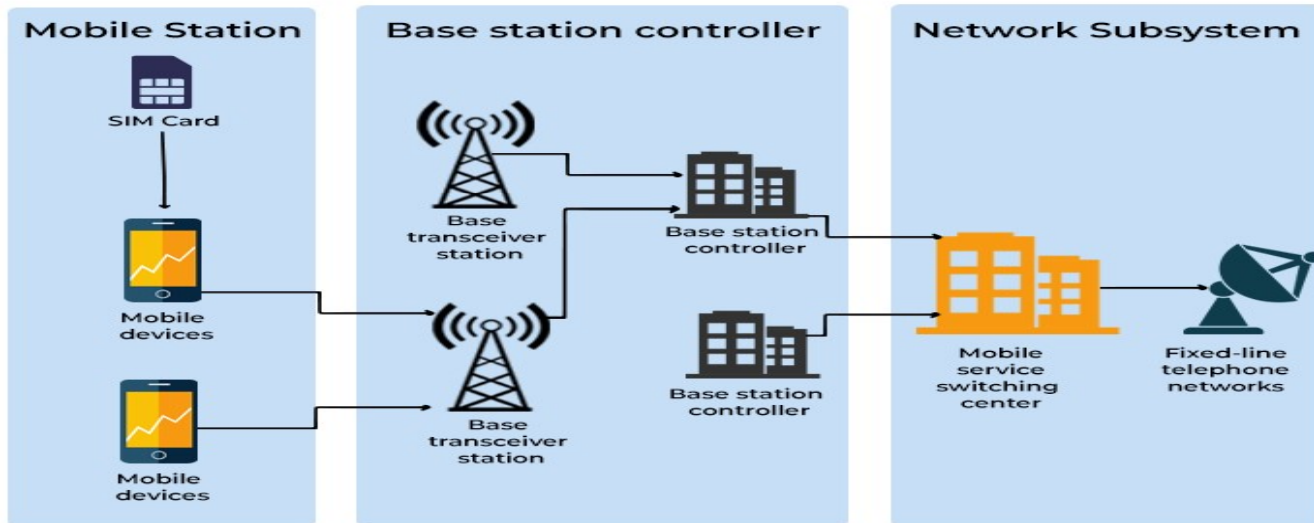
GSM is currently the most widely used network technology in Internet of Things (IoT) applications for its simplicity, low complexity cellular communications for IoT devices in a way that conserves energy

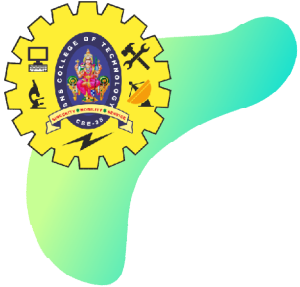




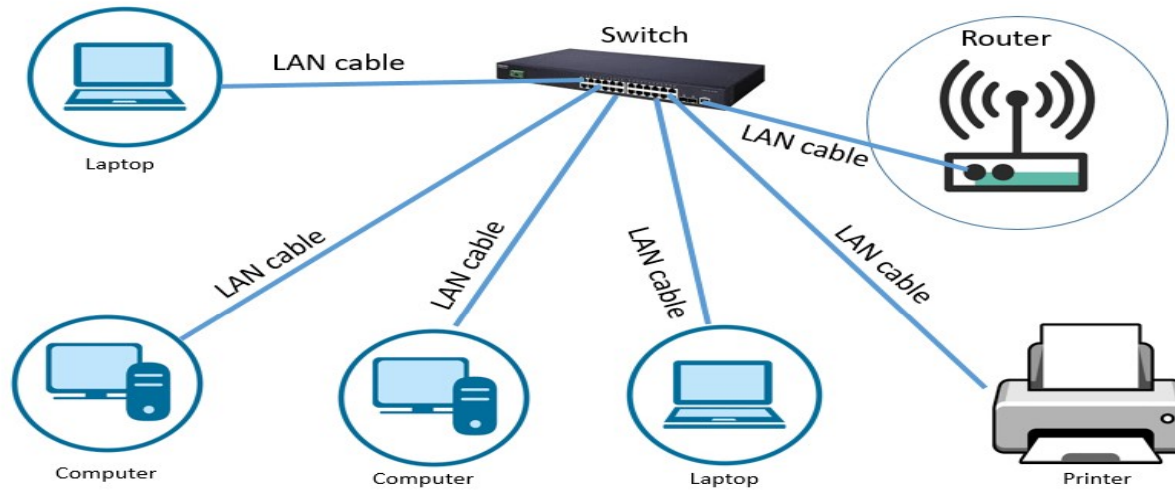
THE WORKING OF A GSM NETWORK

WORKING OF A GSM NETWORK



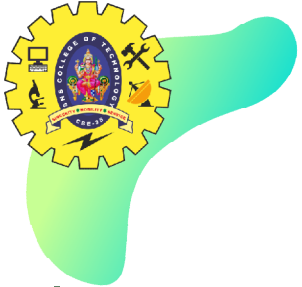


LOCAL AREA NETWORK



Local Area Network

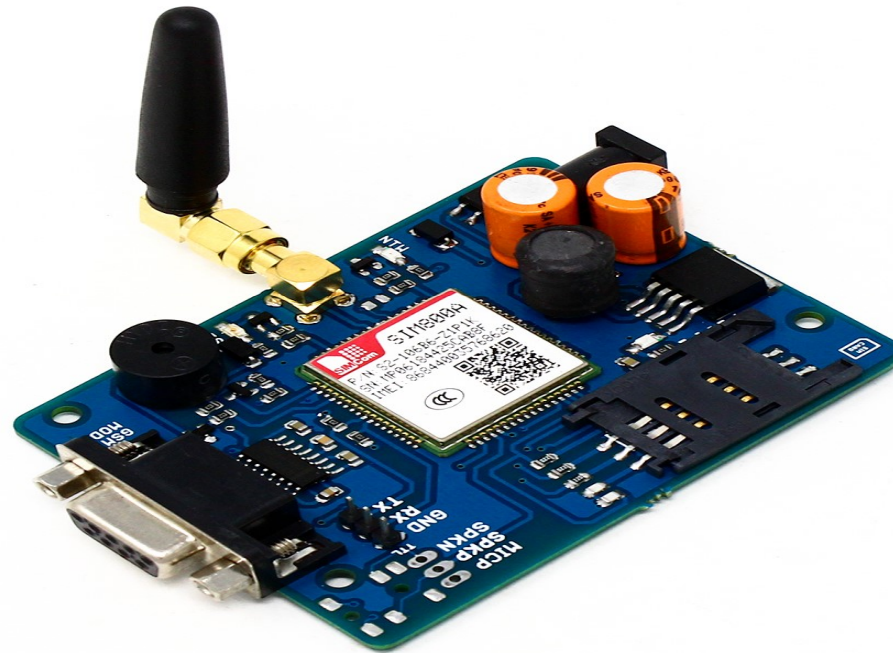


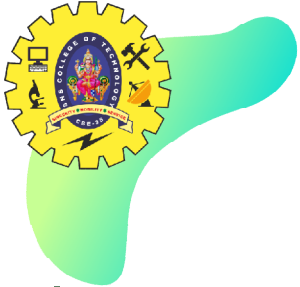


ASSESSMENT - 1



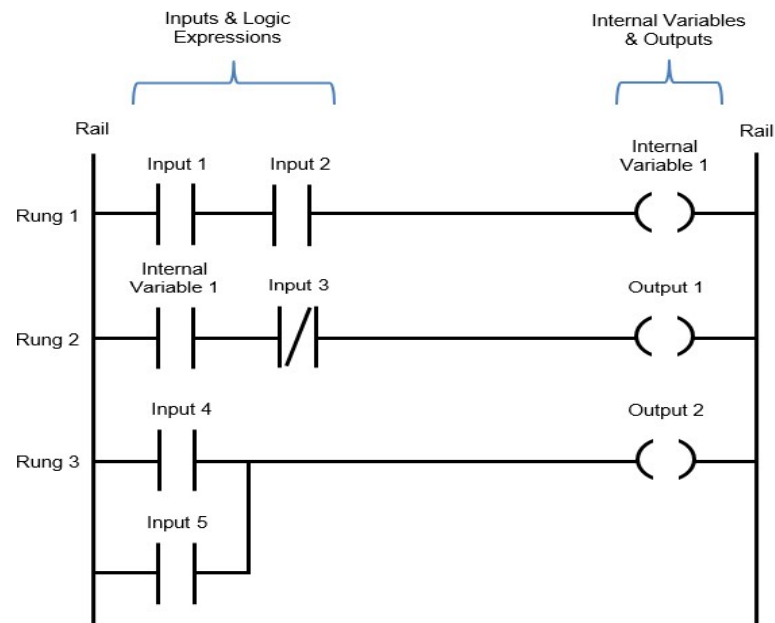
WHAT ARE THE DIFFERENCE BETWEEN GSM & WI-FI





ASSESSMENT - 2

Can you explain this circuits?





References

- [https://www.lanner-america.com/blog/iot-gateway-integration-of-plc-with-iot/](https://www.lanner-america.com/blog/iot-gateway-integration-of-plc-with-<u>iot/</u>)
- [https://iot4beginners.com/zigbee-and-its-importance-in-the-internet-of-things/](https://iot4beginners.com/zigbee-and-its-importance-in-the-internet-of-<u>things/</u>)
- <https://www.spiceworks.com/tech/networking/articles/what-is-gsm/>

Thank You

