Assignment 1

Date: 13/06/2025

1. Draw and explain Bluetooth Protocol Architecture. CO1, CO3
2. Explain the IEEE 802.11 Architecture with the diagram. CO1, CO3
3. Draw the GSM architecture. CO2
4. Compare Wi-Fi and Wi-Max. CO3
5. Describe Piconets and scatternet. CO1, CO3
6. Compare LAN and WAN. CO1
7. Compare 1G,2G,3G and 4G technology. CO2
8. Differentiate infrastructure and ad-hoc network. CO3
9. State the applications of Bluetooth and differentiate between Piconet and Scatternet with neat diagram. CO1, CO4
10. Explain the power saving states of Bluetooth device. CO1
11. List the similarities and differences among Bluetooth, WiFi, and Zigbee based on:
    1. Range, b) Data rate, c) Power consumption, d) Network topology CO1, CO3
12. Evaluate the role of WiMAX in bridging the rural-urban digital divide. CO3,CO4
13. Design a Zigbee-based smart agriculture sensor network. CO4
14. Evaluate the limitations of RFID and how newer technologies like NFC or UWB (Ultra-Wide Band) address them. CO3, CO4
15. Explore the use of Bluetooth Low Energy (BLE) in health monitoring systems. CO4
16. Compare and contrast RFID and barcode systems for object identification. CO1, CO3