Assignment 2

Date: 27/06/2025

1. Define Medium Access Control (MAC) in wireless networks and explain its importance. CO3
2. What is Link Adaptation in Wi-Fi, and why is it needed in wireless communication? CO3
3. List the major differences between proactive and reactive routing protocols in ad hoc networks. CO3
4. What is the LEACH protocol, and what type of network does it typically apply to? CO3, CO4
5. Explain the role of clustering in the LEACH protocol for wireless sensor networks. CO4
6. What are the primary characteristics of Ad hoc On-Demand Distance Vector (AODV) routing protocol? CO3
7. Describe the main goal of medium access control in ad hoc wireless networks. CO3
8. Compare and contrast LEACH protocol with other clustering protocols used in wireless sensor networks. CO3, CO4
9. Explain how link adaptation dynamically adjusts the transmission parameters in Wi-Fi networks. CO3
10. Discuss the limitations of the traditional MAC layer in supporting high-mobility ad hoc networks. CO3
11. How does the Dynamic Source Routing (DSR) protocol differ from the AODV protocol in ad hoc networks? CO3
12. Explain the cluster head selection process in the LEACH protocol and how it contributes to network energy efficiency. CO4
13. What are the main challenges in designing MAC protocols for ad hoc networks? CO3
14. Describe the routing mechanism of the Destination-Sequenced Distance-Vector (DSDV) protocol in ad hoc networks. CO3
15. Explain in detail how link adaptation works in Wi-Fi networks using techniques such as Adaptive Modulation and Coding (AMC). Include examples of how these techniques affect network performance. CO3
16. Describe the impact of link adaptation on Quality of Service (QoS) in Wi-Fi networks. What are the key factors influencing link adaptation performance? CO3
17. Describe the process of route discovery and route maintenance in the AODV routing protocol. How does this protocol handle link failures? CO3