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Question Paper Code : 80537

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2024.

Seventh Semester

Electronics and Communication Engineering

EC 8702 – AD HOC AND WIRELESS SENSOR NETWORKS

(Regulations 2017)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Mention the types of routing protocols.
2. What is hidden terminal problem?
3. State some real-time applications of WSN.
4. Define network life time.
5. Give the significance of query beacon.
6. List out the two different phases in each round of LEACH protocol.
7. What is meant by data and service dependability?
8. How sink hole attack operates?
9. What are the special features of SoC nodes?
10. Write the importance of state-centric programming.

PART B — (5 × 13 = 65 marks)

11. (a) (i) Discuss about the various issues in Ad hoc wireless networks. (7)
(ii) Explain the challenges in designing routing protocol. (6)

Or

- (b) Compare the functions of AODV with DSDV.

12. (a) Explain in detail about the various parts of wireless sensor networks.
Or
(b) (i) Distinguish MANET and WSN. (7)
(ii) Discuss about transceiver design considerations. (6)
13. (a) Illustrate the working of S-MAC protocol in detail.
Or
(b) Describe in detail about the need of power aware multi-access protocol for defining WSN MAC.
14. (a) Explain in detail about the network security wise attacks and layer wise attacks in WSNs.
Or
(b) Write in detail about flooding attack and black hole attack.
15. (a) Explain the features and limitations of Tiny OS.
Or
(b) Illustrate how NS-2 is used for sensor network design and evaluation.

PART C — (1 × 15 = 15 marks)

16. (a) Explain AODV route establishment and route maintenance with proper diagram for the following network (Fig 16a). Consider 'A' is a source node.

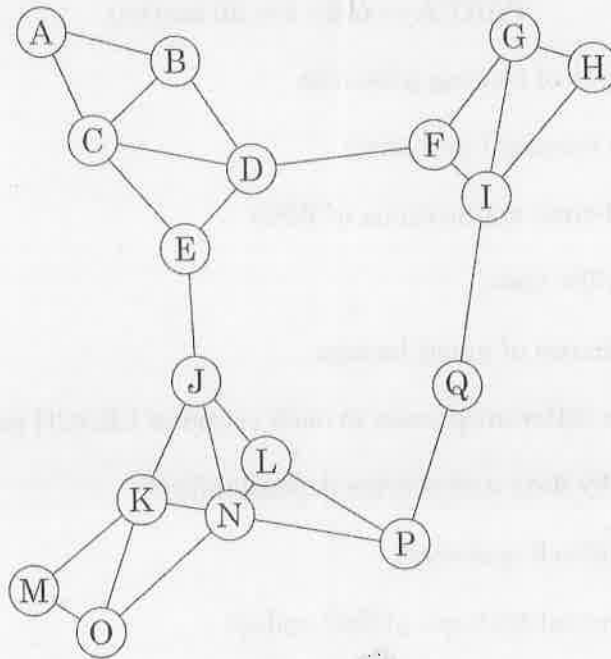


Fig. 16a.

- Or
(b) Assume that as an attacker, you are planning to propose DoS attack. Write down the steps involved for DoS attack. Explain the effect of DoS attack in WSN.