

## WIRELESS SENSOR NETWORKS

Academic Year : 2018-2019  
Department : ECE  
Year/Semester : IV YEAR– II SEMESTER  
Subject : WIRELESS SENSOR NETWORKS

### UNIT1

- 1(a) How does adhoc network differ from wireless networks? [8]
- b) Mention the major applications of Wireless Sensor Networks.[7]
- 2) a) What are the deployment challenges in Wireless Sensor Networks? [8]
- b) List the application areas of sensor networks.[7]
- 3) a) Differentiate ad hoc networks sensor networks. Outline the features of Wireless Sensor Networks.[8]
- b) Compare the features of cellular networks and ad hoc networks.[7]
- 4) (a) What are the major issues and challenges that need to be considered for designing adhoc wireless system?[9]
- b) Describe the Enabling Technologies for Wireless Sensor Networks.[6]
- 5) Define Wireless Sensor Networks? Explain in brief about the Applications of Wireless Sensor Networks?[15]

### UNIT II

- 1(a) Describe the single node architecture with appropriate diagram. [8]
- b) Explain energy aware protocols in WSN.[7]
- 2) a) Discuss about quality of sensor network. [8]
- b) Draw and explain sensor network architecture.[7]
- 3) a) Draw and explain the architecture of Sensor Networks. [8]
- b) Describe in detail about the energy consumption of sensor nodes.[7]
- 4a) Explain the optimization goals of Sensor Networks. [7]
- b) Explain the merits and demerits of Sensor Networks.[8]
- 5.Explain in brief about the Topology of Personal Area Networks?[15]

### UNIT III

- 1) a) Discuss the Security issues in MANETs. [8]
- b) Explain in detail about the different types of MANET routing Algorithms.[7]
- 2) a) Define the problem of Hidden and Exposed terminals. [8]
- b) What are the different kinds of multiplexing techniques? Explain them.[7]
- 3) a) Explain in detail about Transceiver Design Considerations. [8]
- b) Explain the properties of MANETs.[7]
- 4) a) What are the applications needed in a MANET? [8]
- b) What is mobile ad-hoc network? What are the applications of MANET?[7]

- 5) a) Discuss about the Contention Based MAC Protocols with Scheduling Mechanisms.[7]

b) Explain the any two MAC Protocols that use Directional Antennas.[8]

#### UNIT IV

1) a) Explain the difference between Proactive routing protocols and Reactive routing protocols.[8]

b) Explain the OLSR protocol in detail. Compare it with AODV protocol.[7]

2) a) List the classification of routing protocols in ad hoc networks. Explain any two in detail. [8]

b) What are the issues in designing a Routing Protocol for Ad Hoc Wireless Networks?

3) a) Describe about various types of hybrid routing protocols. [8]

b) Explain in detail about the source initiated routing protocols for adhoc networks.[7]

4) a) Explain in brief about DSDV Routing Protocol? [8]

b) List out the advantages and disadvantages of CHGSR protocol?[7]

5) a) Differentiate between Table –Driven Routing Protocols and On–Demand Routing Protocols?[7]

b) Explain in brief about the Issues in Designing a Routing Protocol for Ad Hoc Wireless Networks?[8]

#### UNIT V

1) a) What are the issues designing in transport layer for adhoc networks? [8]

b) Describe the classification of transport layer and its solutions.[7]

2) a) What are the design Goals of a Transport Layer Protocol for Ad Hoc Wireless Networks?[8]

b) Justify what are the solutions for classification of transport layer. [7]

3) a) Describe the issues in Designing a Transport Layer Protocol for Ad Hoc Wireless Networks.[8]

b) What are the challenges in transport layer for Adhoc networks?[7]

4) a) What is a transport layer? How to Classify Transport Layer Solutions? [8]

b) Explain the transport layer protocols in detail.[7]

5) a) Explain in brief about the Design Goals of a Transport Layer Protocol for Ad Hoc Wireless Networks?[8]

b) Explain in brief about Secure aware AODV Routing protocol?[7]

#### UNIT VI

1) a) What are the issues and Challenges in Security Provisioning? [8]

b) Describe the attacks in Network Security.[7]

2) a) Explain the Node- level software in detail. [8]

b) Describe in detail about the state centric programming. [7]

3) a) Explain about Sensor Tasking and Control. [8]

b) Explain in detail about Security in Ad Hoc Wireless Networks.[7]

4) a) Explain the programming challenges in Wireless Sensor Networks. [8]

b) Using sensors how to automate a home? Explain it. [7]

5) a) Explain the Node level simulators in detail. [8]

b) Describe the Wireless Fidelity systems in detail. [7]