

MID TERM EXAMINATION [MAY-2023]
EIGHT SEMESTER [B.TECH]
AD HOC AND SENSOR NETWORKS [ETEC-406]

Time: 1.5 Hrs.

Max. Marks: 30

Note: Attempt Q. No. 1 which is compulsory and any two questions from the remaining.

Q.1. (a) What is the difference between cellular and ad-hoc wireless networks? (2.5)

Ans. Refer to Q.1 (b) First Term Examination 2019 (Pg. No. 1-2019).

Q.1. (b) What are the major functions performed by the TCP? (2.5)

Ans. Refer to Q.1 (d) End Term Examination 2018 (Pg. No. 5-2018).

Q.1. (c) What are the applications of Wireless Ad-Hoc networks? (2.5)

Ans. Refer to Q.3 Model Test Paper III (Pg. No. M.P. III-3).

Q.1. (d) What are the major Network Security Attacks? (2.5)

Q.2. (a) Classify the MAC protocols. What are the advantages of reservation-based MAC protocols over contention-based MAC protocols? (7)

Ans. Refer to Q.3 (a), (b) End Term Examination 2017 (Pg. No. 14,15-2017).

Q.2. (b) Compare the pros and cons of using scheduling based MAC protocols over reservation-based MAC protocols? (3)

Q.3. (a) Describe the major challenges faces during a routing protocol designed for ad hoc wireless networks? (5)

Ans. Refer to Q.1 (d) End Term Examination 2017 (Pg. No. 9-2017).

Q.3. (b) Why secure routing protocols are needed? Describe issues and challenges in securing provisioning of transport layer. (5)

Ans. Refer to Q.5 (b) End Term Examination 2018 (Pg. No. 12-2018).

Q.4. (a) Describe a common method used in alleviating the hidden terminal problem at the MAC layer. (5)

Q.4. (b) Why does TCP not perform well in Ad Hoc Wireless Networks? Explain. (5)

Ans. Refer to Q.1 (e) End Term Examination 2019 (Pg. No. 7-2019).

END TERM EXAMINATION [JULY-2023]
EIGHT SEMESTER [B.TECH]
AD HOC AND SENSOR NETWORKS [ETEC-406]

Time: 3 Hrs.

Max. Marks: 75

Note: Attempt five questions in all including Q. No. 1 which is compulsory. Select one question from each unit.

Q.1. Attempt All:

Q.1. (a) What is an ad-hoc network? Why ad hoc networks are needed? Discuss. (4)

Ans. Refer to Q.1 (a) End Term Examination 2019 (Pg. No. 6-2019).

Q.1. (b) What is Sensor Network Localization. (4)

Q.1. (c) Explain goals to be achieved in transport layer protocol for ad hoc wireless networks. (4)

Q.1. (d) List the characteristics of ideal routing protocol for ad hoc wireless network.

Ans. Refer to Q.1 (c) First Term Examination 2018 (Pg. No. 2-2018).

Q.1. (e) Define data relaying in a WSN.

(4)

Q.1. (f) What is data dissemination in a wireless sensor network?

(4)

UNIT - I

Q.2. (a) Explain about the Contention-based MAC protocols with scheduling mechanism.

(6.5)

Ans. Refer to Q.2 (b) End Term Examination 2017 (Pg. No. 13-2017).

Q.2. (b) Outline the design challenges in mobile adhoc networks and wireless sensor network.

(6)

Q.3. (a) What are the advantages of reservation based MAC protocols over contention based MAC protocols?

(6.5)

Ans. Refer to Q.3 (b) End Term Examination 2017 (Pg. No. 15-2017).

Q.3. (b) Explain the issues in designing the MAC protocols in ad hoc networks and give the classification of MAC protocols.

(6)

Ans. Refer to Q.3 (a) End Term Examination 2018 (Pg. No. 9-2018) & Refer to Q.3 (a) End Term Examination 2017 (Pg. No. 14-2017).

UNIT - II

Q.4. (a) What is the need for power management in ad hoc network? Discuss the approaches for power aware routing protocol.

(6)

Ans. Refer to Q.5 (a) End Term Examination 2017 (Pg. No. 20-2017).

Q.4. (b) Give classification of routing protocols in ad hoc networks. Explain any two.

(6.5)

Ans. Refer to Q.5 (a) End Term Examination 2018 (Pg. No. 12-2018).

Q.5. (a) Why TCP protocols used in wired network is not suitable for wireless networks?

(6.5)

Ans. Refer to Q.4 (b) First Term Examination 2017 (Pg. No. 6-2017).

Q.5. (b) What do you understand by network security requirements? Discuss the issues and challenges in secure routing of ad hoc wireless networks.

(6)

Ans. Refer to Q.5 (b) End Term Examination 2017 (Pg. No. 21-2017).

Q.6. (a) What is a wireless sensor network? Explain with diagrammatic illustration of wireless sensor network architecture.

(6.5)

Ans. Refer to Q.4 (a) End Term Examination 2019 (Pg. No. 10-2019).

Q.6. (b) Why is routing in multi-hop ad-hoc networks complicated, what are the special challenges?

(6)

Q.7. (a) Explain about UWB radio communication systems.

(6)

Ans. Refer to Q.9 (b) End Term Examination 2019 (Pg. No. 16-2019).

Q.7. (b) What is wireless geolocation? Discuss the geolocation system architecture.

(6.5)

Ans. Refer to Q.8 End Term Examination 2017 (Pg. No. 27-2017).

Q.8. Write short note on:

Q.8. (a) Geolocation standards for E-911 Services.

(6)

Ans. Refer to Q.8 Model Test Paper III (Pg. No. 10-MP-III).

Q.8. (b) Vehicular sensor networks.

(6.5)

Ans. Refer to Q.9 (b) End Term Examination 2018 (Pg. No. 16-2018).