

First Term Examination, Feb-2020

Programme: **B.Tech. ECE (8th)**

Maximum Marks: 30

Paper code: **ETEC-406**

Duration: **01:30 Hrs**

Subject: **Ad Hoc and Sensor Networks**

Note: Q.No. 1 which is compulsory. Select one question from each unit.

Q.1 Attempt any four questions of the following:-

(4*4=16)

- (a) Why Ad Hoc Network needed?
- (b) What are the applications of Ad Hoc Networks.
- (c) Discuss the issues in AdHoc wireless networks.
- (d) Write a short note on issues in designing a transport layer protocol for Adhoc wireless networks?
- (e) What is the difference between cellular and Ad Hoc Network.

Unit -1

Q.2 What are the characteristics and features of Ad Hoc Network? Explain the architecture of Ad Hoc wireless network with its significant aspects. [7]

OR

Discuss the classification of MAC Protocols. What are the advantages of reservation based MAC protocol over contention based MAC protocol? [7]

Unit-2

Q.3 / Explain different types of Routing Protocols. [7]

OR

Explain the design goal of the transport layer protocol for Ad Hoc Wireless Networks? [7]

-END TERM EXAMINATION

EIGHTH SEMESTER [B.TECH] SEPTEMBER-OCTOBER 2020

Paper Code: ETEC-406

Subject: Adhoc and Sensor Network

Time: 2 Hours

Maximum Marks: 75

Note: Attempt any three questions. Assume missing data suitably if any.

- Q1
- a) State the difference between Cellular Network and Ad Hoc Wireless network. (6)
 - b) List and explain the issues and goals in designing a MAC protocol for ad hoc wireless networks. (7)
 - c) Explain the hidden and exposed problems with an example. (6)
 - d) What is contention based protocol? Discuss. (6)
- Q2
- a) Explain about the Contention-based MAC protocols with scheduling mechanism. (9)
 - b) What are the advantages of reservation based MAC protocols over contention based MAC protocols? Discuss. (8)
 - c) Discuss the services provided by IEEE 802.11. (8)
- Q3
- a) Discuss the major functions performed by the TCP. (9)
 - b) Explain goals to be achieved in transport layer protocol for ad hoc wireless networks. (8)
 - c) Discuss table driven protocols with example. (8)
- Q4
- a) What is hybrid routing protocol? Explain. (6)
 - b) Describe in detail the design issues in routing and transport layer protocols. (6)
 - c) Explain the demand routing protocol in detail. (6)
 - d) Explain the major reasons behind that TCP not perform well in Ad hoc Networks. (7)
- Q5
- a) Compare wireless sensor network with ad hoc network. (8)
 - b) Write a note on load balancing in hybrid wireless networks. (8)
 - c) Explain the functions performed by a node in a wireless sensor network. (9)
- Q6
- a) What are the challenges caused by sensor network MAC protocol? Discuss. (9)
 - b) Discuss about power control schemes in hybrid wireless networks. (8)
 - c) Discuss the architecture of wireless sensor network with diagram. (8)
- Q7
- a) Define and explain Quality of Service. (8)
 - b) Explain the wireless geolocation system architecture. (8)
 - c) Write a note on Geolocation standards for E-911 Services. (9)
- Q8
- Explain the following:
- a) Ultra-Wide-Band Radio Communication. (12.5)
 - b) Optical Wireless Networks. (12.5)