Roll No. .... Total Pages : 2

MTE/D-21 **24101**

ADVANCED WIRELESS AND MOBILE NETWORKS

Paper–MT-CSE–18-14(iii)

Time Allowed : 3 Hours] [Maximum Marks : 100

Note : Attempt **five** questions in all. Question No. **1** is compulsory. Attempt other four questions selecting **one** question from each Unit. All questions carry equal marks.

Compulsory Question

1. Answer any **five** of the following questions in brief :

   (a) List out any four challenges related to Mobile computing.

   (b) What is meant by fading effects in indoor and outdoor WLANs?

   (c) Describe the deployment issues related to Wireless LANs.

   (d) Distinguish between Hard handoff and Soft handoff.

   (e) What is Wireless Sensor Networks? Enumerate any three applications of Wireless Sensor Networks.

   (f) Discuss in brief the challenges related to the Security of Wireless Networks.

UNIT–I

2. (a) Give an overview of the key Wireless Physical Layer Concepts.

   (b) Compare FDMA, TDMA and CDMA techniques for multiple access of a shared channel.

3. Compare the following in the context of IEEE 802.11 LANs :

   (a) Ad hoc and Infrastructure mode.

   (b) Hidden station and Exposed station problem.

UNIT–II

4. Describe the Architecture of Cellular Networks and describe the channel assignment strategies adopted in Cellular Networks.

5. Describe Spread Spectrum technology as used in CDMA. Also explain the coverage and capacity improvement techniques for Cellular systems.

UNIT–III

6. List out and explain the salient features of Wi-Max and bring out its distinction with IEEE 802.22 standard. Also describe the MAC layer and mobility support of Wi-Max standard.

7. Give an overview of Bluetooth and Zigbee PAN standards along with the applications they are used for.

UNIT–IV

8. Describe the various Security attacks to which Wireless Networks may be vulnerable. How can the attacks be countered?

9. How is a Vehicular Network different from traditional Ad Hoc Networks? How can secure routing be carried out in Ad Hoc Wireless Networks?