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Question Paper Code : 51268

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2014.

Eighth Semester

Electronics and Communication Engineering

080290075 — WIRELESS NETWORKS

(Regulation 2008)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Distinguish-between slow fading and fast fading.
2. Mention the channel access cycle in HIPERLAN1.
3. Name effects of multipath fading.
4. How important the signal-to-interference ratio is?
5. What is mobile assisted handoff?
6. List the different types of control channels in GSM networks.
7. Define multicast routing table.
8. List the issues in Adhoc wireless networks.
9. What is Hidden terminal problem? Suggest a technique to overcome this problem.
10. Why is power management important for Ad Hoc wireless networks?

PART B — (5 × 16 = 80 marks)

11. (a) (i) What is the received power in dBm in free space of a signal whose transmit power is 1W and carrier frequency is 2.4 GHz if the receiver is at a distance of I mile (1.6 Km) from the transmitter. What is the path 1088 in dB? What is the transmission delay?

(ii) Write short notes on Doppler spectrum. (10 + 6)

Or

(b) (i) Explain the Direct Sequence Spread spectrum in IEEE 802.11 standard. (8)

(ii) Write short notes on HomeRF. (8)

12. (a) (i) Explain the following wireless random multiple access techniques Dynamic slotted ALOHA, Packet reservation multiple access (PRMA) and CSMA/CA. (10)

(ii) Compare the features of FDMA, TDMA and CDMA. (6)

Or

(b) Explain the following Architectural methods for capacity expansion: Cell splitting, Cell Sectoring, Lee's Micro cell method and Overlaid cell concept. (16)

13. (a) (i) Explain in detail about mobility management. (8)

(ii) Explain with neat sketch about IS-95 standard of CDMA technology. (8)

Or

(b) Draw the architecture of GSM module and explain each block in detail. (16)

14. (a) Discuss about the transport layer protocols in adhoc wireless networks.

Or

(b) Explain in detail about any two routing protocols of adhoc wireless networks.

15. (a) Classify the MAC protocols and explain. (16)

Or

(b) List the two MAC sublayers defined by IEEE 802.11 standard and explain. (16)
