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Question Paper Code : 60426

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2016.

Seventh/Eighth Semester

Electronics and Communication Engineering

EC 2043/EC 808/10144 ECE 57 — WIRELESS NETWORKS

(Regulations 2008/2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Compare FDMA, TDMA and CDMA.
2. Mention some key factors that contribute to security problems in wireless networks.
3. What are the bandwidth and chip rates used in WCDMA?
4. What forward channels are involved in IS-95 for power control?
5. Distinguish between MAC layers of IEEE 802.11 wireless LAN and Hyper LAN.
6. State the difference between an ESS and a BSS on the IEEE 802.11 wireless LAN.
7. List out the characteristics of MANETs.
8. How MAC protocols of WSN differ from traditional wireless MAC protocols?
9. Give the protocol stack involved for Bluetooth communication.
10. What type of handoff technique is offered in IS-95 and CDMA technology?

PART B — (5 × 16 = 80 marks)

11. (a) With necessary diagram explain the different types of random access methods of mobile data services.

Or

- (b) Explain in detail about security and privacy in wireless networks.

12. (a) (i) Discuss the evaluation and advancement of first generation analog to second generation digital TDMA based GSM networks. (8)
- (ii) How will you achieve power control and handoff mechanism IS.95? (8)

Or

- (b) With suitable diagram describe the reference architecture and protocol specifications of GSM. (16)
13. (a) (i) Explain the following corresponding to 802.11 MAC sublayer.
- (1) Reliable Data delivery. (4)
- (2) Access control. (4)
- (3) MAC frame format. (4)
- (ii) Compare the WiMax and HIPERLAN standard. (4)

Or

- (b) Explain the architecture and sublayers of HIPERLAN. (16)
14. (a) Describe the architecture of Wireless Sensor Network.

Or

- (b) Explain the key features of Routing Protocol in WSN and Discuss any two energy efficient routing protocols.
15. (a) Explain in detail about the source initiated routing protocols for ad hoc networks. (16)

Or

- (b) Explain about the MAC layer challenges in wireless sensor network. Find out the remedies to the challenges and issues and discuss in detail about it. (16)