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**Question Paper Code : 31341**

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2013.

Eighth Semester

Electronics and Communication Engineering

EC 2043/EC 808 — WIRELESS NETWORKS

(Regulation 2008)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Compare the performance of connection oriented voice services and connectionless data services.
2. What is the difference between carrier sense mechanism in Ethernet, IEEE 802.3 wired LAN and IEEE 802.11 wireless LAN.
3. What are the duties of SGSN and GGSN in GPRS?
4. Mention the five logic channel in GSM standard.
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. Enlist the important characteristics of MANETS.
8. How does wireless sensor network differ from mobile Adhoc network?
9. State the functional requirements of IEEE 802.15 WPAN.
10. Draw the protocol stack of Bluetooth.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Write a brief note on various random access protocols for data oriented networks. (12)

(ii) Determine the capacity of IS-95 digital CDMA system which is having a bandwidth of 1.25 MHz, the transmission rate 12 Kbps, signal to interference ratio of 8 with correction factor for sectorization and voice activity is 4. Assume the neighbouring cell interference factor is 1.6. (4)

Or

(b) (i) Explain security issues in wireless networks. (8)

(ii) In what way handoff and mobility support achieved in wireless networks. (8)

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 in IS.95? (8)

Or

(b) With suitable diagram describe the reference architecture and protocol specifications of GSM. (16)

13. (a) (i) What are the requirements and applications of wireless LANS? (4)

(ii) Describe the services offered by MAC and MAC management sublayers of IEEE 802.11 wireless LAN. (12)

Or

(b) (i) Wifi and Wimax may be the alternative solution of fixed broadband services in real time applications. Comment on this issue. (6)

(ii) Explain the overview of Wimax IEEE 802.16 MAC layer and the functionalities. (10)

14. (a) (i) Classify the wireless sensor networks. (8)

(ii) How can range based localization algorithm used for localizing sensor networks with reference to nearby land marking? (8)

Or

(b) (i) Explain the concept of AODV routing in MANET.

(ii) State the importance of QOS in Adhoc networks. Explain with example.

15. (a) Write a technical note on physical and MAC layers of Bluetooth. In what way connection management is achieved?

Or

- (b) Explain the following with architecture and physical and MAC layer details. (8 + 8)

- (i) WPAN  
(ii) HomeRF.

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