

Register Number.....

B.E. DEGREE EXAMINATIONS: APRIL/MAY 2012

Eighth Semester

ELECTRONICS AND COMMUNICATION ENGINEERING

U07ECE15: Wireless Networks

Time: Three Hours

Maximum Marks: 100

Answer All Questions:-

PART A (10 x 1 = 10 Marks)

1. Name the access technique of IEEE 802.11.
a) CSMA/CD b) CSMA/CA c) RTS/CTS d) DSSS/BPSK
2. Spatial diversity is provided by
a) multiple antennas b) multiple paths c) multiple channels d) multiple signals
3. In an OFDM modem with 48 channels, each channel uses 16 QAM modulations. If the overall transmission rate is 10 Mbps, What is the symbol transmission rate per channel?
a) 52.083 KHz. b) 52.83 KHz. c) 32.083 KHz. d) 53.83 KHz
4. _____ is architecture method, used to increase the capacity of an analog Cellular system without increasing the number of antenna sites.
a) Cell splitting b) Cell partitioning
c) Static Channel borrowing d) Dynamic Channel borrowing.
5. What is the throughput of the ALOHA network with a large number of users and a transmission rate of 1 Mbps when only one user is effective?
a) 1 Mbps b) 2 Mbps c) 10 Mbps d) .1 Mbps
6. How many forward channels are involved in IS-95 for power control?
a) Pilot channel b) Synchronization channel
c) Paging channel d) Traffic channel and control channel
7. What is the chip rate in WCDMA?
a) 4.84 Mcps b) 3.48 Mcps c) 4.84 Mcps d) 3.84 Mcps
8. Which topology is used in HIPERLAN-2?
a) Decentralized ad hoc based b) centralized ad hoc based
c) Decentralized cellular based d) centralized cellular based

9. What type of the modulation used in IEEE 802.15.4 ?

- a) OFDM b) FHSS/BPSK c) DSSS/QPSK d) DSSS/BPSK

10. Name the topology for blue tooth architecture?

- a) scattered adhoc b) centralized ad hoc c) Decentralized cellular d) centralized cellular

PART B (10x2=20 Marks)

11. Why is out of band of radiation an important issue in designing a modulation scheme?
12. What are sectored antennas? How they are useful in combating multipath interference?
13. Compare single hop and multihop networks topologies.
14. Explain how smart antennas can improve the capacity of cellular network.
15. What is GPRS-136? How does it differ from GPRS?
16. What are the differences between W-CDMA and CDMA 2000?
17. What are the differences between IEEE802.11 and HIPERLAN standards?
18. What is the purpose of scrambler and interleaver in the HIPERLAN-2 modem?
19. What is home RF?
20. List out the difference between GPS, wireless cellular assisted GPS, and indoor Geo location systems.

PART C (5x14=70 Marks)

21. a) What are the diversity techniques? Explain various Diversity techniques used in wireless networks.

(OR)

b) Explain any three Random access methods for wireless LANs.

22. a) Explain the two fundamental types of topologies used in the wireless networks.

(OR)

b) Compare between fixed channel allocation and dynamic channel allocation techniques.

23. a) Explain in detail about IS-95 CDMA forward channels.

(OR)

b) What is GPRS? Explain in detail about GPRS.

24. a) What is a HAN? Why do we need a HAN? Explain about HAN technologies.

(OR)

b) Explain in detail about, reference architecture, layered Protocol architecture of IEEE 802.11?

25. a) With necessary diagrams, explain architecture and protocol stack of Bluetooth. Also explain Protocol stack for implementation of cordless telephone over blue tooth.

(OR)

b) Explain Direction based and Distance based techniques of wireless Geo location technologies with necessary diagrams.
