

B.E. / B.Tech (Full - Time) DEGREE ARREAR EXAMINATION, APRIL / MAY 2012

ELECTRONICS AND COMMUNICATION ENGINEERING BRANCH

EIGHTH SEMESTER (Regulations-2004)

EC 527 – WIRELESS NETWORKS

Time: 3 Hours

Max.marks: 100

Answer ALL Questions

Part-A (10x2=10 Marks)

1. What is the difference between the access techniques of IEEE 802.3 and IEEE 802.11?
2. What is the capture effect and how does it impact the performance of the random access methods?
3. Compare infrastructure and Adhoc topology.
4. List out the advantages and disadvantages of stream cipher and block cipher.
5. Draw the basic spreading procedure on the forward channel in IS-95.
6. Classify the various mobile data networks.
7. Compare IEEE 802.11 and HIPERLAN-2.
8. How do HPNA, DSL and POTS share the telephone wings?
9. What is meant by paging and inquiry in Bluetooth?
10. What is shared wireless access protocol (SWAP)? Draw the SWAP frame specifications.

Part-B (5x16=80 Marks)

- 11.(i) Determine the capacity of W-CDMA system with the bandwidth of 12.5 MHz.. Assume a SINR of 6 dB, antenna sectorization of 2.75, voice activity of 2 and extra CDMA interference of 1.67. (6)
 - (ii) With neat diagram, explain the dynamic slotted ALOHA used in mobitex and CSMA/CA adopted by the IEEE 802.11. (10)
 - 12.(a)(i) With neat diagram, explain the various capacity expansion techniques. (10)
 - (ii) Derive the effect of SINR on capacity of the cellular system. Assuming all base station transmit equal power and all the co-channels are of equivalent distance and unequal distance. (6)
- OR**
- 12.(b)(i) Explain the three parts of location management. (10)
 - (ii) With neat diagram explain the concepts of Digital Signature. (6)
 - 13.(a) With neat diagram, explain the protocol architecture of GSM. (16)
- OR**
- 13.(b) With neat block diagram, explain the GPRS system reference architecture. (16)

14.(a) With neat block diagram, explain the Handoff procedure in IEEE 802.11 and privacy in IEEE 802.11. (16)

OR

14.(b) Explain the protocol entities in an ATM environment that supports Wireless mobility. (16)

15.(a) Draw the protocol stack of Bluetooth and explain the frame formats of the Bluetooth packets. (16)

OR

15.(b) Explain the technologies for wireless geolocation. (16)
