Roll No ....

CS - 8303

B.E. VIII Semester

Examination, June 2015

Wireless Network

(Elective-III)

Time : Three Hours

Maximum Marks : 70

Note: Total number of questions 10. Attempt one from each unit. Assume missing data, if any, suitably.

UNIT-I

1. a) What do you mean by Wireless Networks? Explain different generations of wireless networks?   7
   b) Explain in detail, the various radio propagation mechanisms?   7

OR

2. a) Derive the free space propagation model to predict the received signal strength?   7
   b) Explain the techniques for improving coverage and capacity in cellular systems?   7

UNIT-II

3. a) What are the advantages and disadvantages of CDMA cellular Network?   7
   b) What is the need for frequency reuse ? Explain the frequency reuse concept and show that $N = i^2+ij+j^2$. Where N is the number of cells per cluster?   7

OR

4. a) Derive an expression for signal to interference ratio (S/I) for 7 cell cluster system?   7
   b) What is Topology? Explain various types of wireless network topologies?   7

UNIT-III

5. a) Compare SDMA, TDMA, FDMA and CDMA in terms of transmission technique, signal separation, advantages, disadvantages and applications?   7
   b) Draw the schematic diagram of QPSK generating system and explain its working?   7

OR

6. a) Explain GSM architecture with neat diagram?   7
   b) What is Amplitude Modulation? Drive the equation of AM wave, and draw waveform.   7

UNIT-IV

7. a) What do you understand by wireless LAN? Write down some important requirements for wireless LANs?   7
   b) Discuss the requirements and architecture of HIPERLAN-1?   7

OR

8. a) With the help of a neat diagram explain the architecture and functions of MAC layer in 802.11 standard.   7
   b) Give a simple architecture for Wireless ATM networks? What are the biggest research challenges in Wireless ATM networks?   7

UNIT-V

9. a) Explain the architecture of Bluetooth networks. Discuss various applications of Bluetooth network?   7
   b) Explain the concept of 2.5 G and 3 G Networks?   7

OR

10. a) What is Ad- hoc network? What are the challenging issues in Ad-hoc network maintenance?   7
    b) Explain the architecture and MAC layer details of Bluetooth system.   7

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