

Exam.Code:0924
Sub. Code: 6851

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1059

B.E. (Information Technology) Sixth Semester
ITE-641: Wireless Communication

Allowed: 3 Hours

Max. Marks: 50

IE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

I. Attempt the following:-

- a) Define frequency reuse.
- b) Name the constituents of a typical GSM architecture.
- c) What is meant by Psuedo Noise codes? Why and where are they used?
- d) What is LTE?
- e) What is a WSN? (5x2)

UNIT - I

- II. a) Differentiate between W-LAN and Personnel Area Networks (PAN).
- b) Explain the evolution of mobile communication generations from 1G to 4G. (5,5)
- III. a) A cellular service provider decides to use a digital cellular scheme which can tolerate a signal interference ratio of 10 dB in the worst case. Find the optimal value of cluster size for maximum capacity if the path loss exponent is $n=2$.
- b) How does cell sectoring improve the cell capacity in cellular systems? (5,5)
- IV. a) What are the basic GSM Radio Channels?
- b) Compare TDMA, FDMA and CDMA? (5,5)

UNIT - II

- V. a) How is cell breathing done in CDMA Systems?
- b) What is Soft Handoff in IS 95? What are its advantages and disadvantages? (5,5)
- VI. a) Explain the Maximal Ratio Combining scheme for Rayleigh channels?
- b) Explain the operation of a RAKE Receiver for diversity? (5,5)
- VII. a) Compare between WiFi and WiMax.
- b) What are the technical specifications of the EDGE? (5,5)

x-x-x