24440

B. Tech. 7th Sem. (ECE)

Examination – May, 2015

WIRELESS COMMUNICATION

Paper : ECE-405-F

Time : Three Hours]   [Maximum Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Question number 1 is *compulsory*, and attempt *one* question from each of the *four* Sections. All question carry equal marks.

1. (a) Distinguish between Fixed and Dynamic Channel Allocation.   4

    (b) What is Bluetooth ?   3

    (c) What do you mean by ESN ?   2

    (d) What is diversity ?   4

    (e) What is the function of NSS in GSM ?   4

(f) What are the drawbacks of CSMA-CD in Wireless communication ?   3

SECTION – A

2. (a) What are the different technical challenges to a wireless communication system ?   10

    (b) Explain the various steps involved in placing a call from Mobile to a Landline phone.   10

3. (a) Explain in detail the merits and demerits of 1G, 2G, 3G generation systems & their standards.   10

    (b) Write working principle of WLL. Also write down the advantages and disadvantages of WLL.   10

SECTION – B

4. (a) With the help of suitable block diagram explain the operation of cellular system.   15

    (b) Compare the advantages and disadvantages of analog cellular system with digital cellular system.   5

5. (a) Explain in detail the different techniques used to improve coverage & capacity of cellular system. 10

   (b) What are the different types of Handoff's encountered in Mobile Communications ? 10

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SECTION – C

6. (a) What is the difficulty of implementing CSMA/CD in a wireless environment ? 8

   (b) Explain what is ALOHA ? Compare Classical & Slotted ALOHA. 12

7. (a) Compare the performance of TDMA, FDMA, CDMA, SDMA techniques. 14

   (b) What are the advantages of CDMA as compared to other Multiple Access strategies in Cellular Communication ? 6

SECTION – D

8. (a) Explain the working principle of GSM architecture with neat block diagram. 10

   (b) What is the function of VLR, HLR and AUC ? What are services offered by GSM ? 10

9. (a) What are the different applications of intelligent microcell system ? 10

   (b) Explain forward & reverse channel parameters of IS-95 CDMA. 10

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