Roll No. | | | | | | | | | | | | |

Total No. of Pages: 02
Total No. of Questions: 09

B. Tech. (ECE, ETE) (Sem.-6th)

WIRELESS COMMUNICATION SYSTEM

Subject Code: BTEC-602
Paper ID: [A2316]

Time: 3 Hrs. Max. Marks: 60

INSTRUCTION TO CANDIDATES:

1) ***Section A is compulsory consisting of 10 questions carrying 2 marks each.***
2) ***Section B contains 5 questions carrying 5 marks each and students have to attempt any 4 questions.***
3) ***Section C contains 3 questions carrying 10 marks each and students have to attempt any 2 questions.***

SECTION-A

Q.1. Answer the followings:

a) What are the key elements for planning a cellular system?
b) Write any two differences between AMPS and ATACS system.
c) Differentiate between FDD and TDD.
d) What do you understand by spread spectrum?
e) Explain the term frequency hopping
f) What is the significance of pilot channel in CDMA system?
g) What is the concept of cell splitting?
h) Explain briefly the term space division multiple access technique.
i) Define GGSN and SGSN with respect to GPRS,
j) Write some features of TDMA.

SECTION-B

Q.2. Explain in detail about the fading channel and their characteristics.

Q.3. What is CDMA digital cellular standard (IS-95)? Write down its frequency and channel specification.

Q.4. Differentiate between maximal ratio combining and equal gain combining with respect to space diversity consideration.

Q.5. Write shorts notes on following:

a) Blue Tooth
b) Cordless Telephone System

Q.6. Discuss multiple access protocol ALOHA in detail, highlighting its throughput performance against offered load.

SECTION-C

Q.7. A spectrum of 30 MHz is allocated to wireless FDD cellular system which uses two 25 KHz simplex channel to provide full duplex voice and control channels.

Compute the number of channels available per cell if the system uses:

1. 4 cell reuse ratio
2. 7 cell reuse ratio
3. 12 cell reuse ratio

If 1 MHz of the allocated spectrum is dedicated to control channels,

Determine an equitable distribution of control channels and voice channels in each cell for each of three systems.

Q.8. Explain in detail about GSM air interface specification and features of different control channels.

Q.9. Write shorts notes on the following

a) 4G mobile techniques

b) 3G system: UMTS

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