Roll No. ☐☐☐☐☐☐☐☐☐☐☐☐☐   Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(ECE)/(ETE) (2011 Onwards)   (Sem.–6)
WIRELESS COMMUNICATION SYSTEM
Subject Code : BTEC-602
M.Code : 71122

Time : 3 Hrs.   Max. Marks : 60

INSTRUCTION TO CANDIDATES :
1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1) **Answer briefly :**

   a. What is guard space?

   b. What are the advantages of cellular system?

   c. What is authentication centre?

   d. What are bearer services?

   e. What is Doppler spread?

   f. Which modulation formats are used for high data rate and low data rate in EDGE?

   g. How much there is increased in spectrum efficiency offered by 3G compared to 2G?

   h. If the cluster size N is reduced while the cell size is kept constant then what is the effect on capacity?

   i. How will you define PN sequences used in CDMA?

   j. What is LTE?

SECTION-B

2)   Generalized 4G key challenges and their proposed solutions.

3)   Explain orthogonal covering in CDMA.

4)   Explain the frame structure in GSM along with different burst format.

5)   What are the various physical factors which influence small scale fading?

6)   Write short note on paging system.

SECTION-C

7)   With the help of neat block diagram explain forward CDMA channel modulation process.

8)   Consider a cellular system with four cell reuse pattern. Let the bandwidth allocated is 60 MHz to a FDD cellular telephone system using two 30 KHz simplex channels for providing full duplex control of one channel. Calculate the total number of channels available in one cell.

9)   Compare with tabular format HSCSD, GPRS, EDGE, W-CDMA, IS-95B and CDMA-2000 taking these parameters (1) Channel bandwidth (2) duplexing (3) infrastructure change (4) required new spectrum (5) required new handsets.

NOTE : Disclosure of identity by writing mobile number or making passing request on any page of Answer sheet will lead to UMC case against the Student.