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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.**