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**Total No. of Pages : 02**

**Total No. of Questions : 09**

**B.Tech. (CE / CSE / AI&ML / EE / ECE / EEE / IT/  
(SE)/ (Internet of Things and Cyber Security including Block Chain  
Technology)/ BCA (Sem-6)**

## WIRELESS COMMUNICATION

**Subject Code : BTEC-601-18**

**M.Code : 79373**

**Date of Examination : 26-06-2023**

Time : 3 Hrs.

**Max. Marks : 60**

**INSTRUCTIONS 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. **Write briefly :**
  - a) How much is increased in spectrum efficiency offered by 2G compared to 1G?
  - b) If the cluster size  $N$  is reduced while the cell size is kept constant then what is the effect on capacity?
  - c) Define dwell time.
  - d) How will you define PN sequences used in CDMA?
  - e) What is near far problem?
  - f) Write the services provided by GSM.
  - g) What is the role of the power control bit in CDMA?
  - h) List the GSM channels.
  - i) Define channel modelling.
  - j) What is the reduction factor?

### **SECTION-B**

2. Consider a cellular system with four cell reuse patterns. 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.
3. Explain various Parameters of mobile multipath channels.
4. Draw and Explain IS-95 forward link in detail.
5. Compare FDMA, TDMA and CDMA multiple access techniques in detail.
6. Draw and Explain GSM signal processing in detail.

### **SECTION-C**

7. Explain the diversity techniques in detail.
8. Write a short note on pure ALOHA and slotted ALOHA.
9. What is hand-off in cellular communication? Explain different hand-off strategies.

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**