

Roll No.

Total No. of Pages : 02

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B.Tech. (AI&ML / AI&DS / CE / CSE / EE / ECE / EEE / CSE /

Internet of Things and Cyber Security including

Block Chain Technology) BCA / B.Sc. (IT) (Sem.-6)

WIRELESS COMMUNICATION

Subject Code :BTEC-601-18

M.Code :79373

Date of Examination : 18-12-2025

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) Define omni directional antenna.
- b) What do you mean by frequency reuse?
- c) Explain channel crosstalk.
- d) What is cell splitting?
- e) What is the significance of multiplexing in communication systems?
- f) Differentiate between SDMA and TDMA.
- g) Define the term GPRS.
- h) What are the various 3G communication systems?
- i) What is LTE?
- j) Write the communicating range of wireless microwave communication system without repeaters.

SECTION - B

2. Explain the formula for desired C/I for a normal case in an omni directional antenna system.
3. Draw and explain digital signaling over a frequency non selective slowly fading channel.
4. Describe spread spectrum multiple access, its architecture and working.
5. Explain AMPS and ETACS wireless communication systems.
6. With the help of diagrams, explain Bluetooth technology, its advantages and disadvantages.

SECTION - C

7. Draw and explain the forward and reverse channels of CDMA.
8. Describe frequency division multiple access technique in detail.
9. Explain the concept of diversity branches and signal path techniques in communication systems.

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.