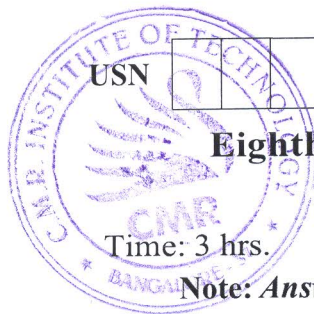


CBCS SCHEME

18EC81



USN

Eighth Semester B.E. Degree Examination, Dec.2023/Jan.2024 Wireless and Cellular Communication

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Explain three basic propagation mechanisms. (10 Marks)
- b. Discuss about the parameters coherence bandwidth and delay spread. In what way does it effect the wireless channel? (10 Marks)

OR

- 2 a. Explain free space propagation model with necessary equations. (10 Marks)
- b. Exhibit the difference between fast fading and slow fading channel. (10 Marks)

Module-2

- 3 a. With block diagram, explain the GSM architecture. (10 Marks)
- b. Explain the GSM hyper frame with TDMA. (10 Marks)

OR

- 4 a. Explain the functions of three layers in a network management subsystem. (10 Marks)
- b. Explain the dedicated control channels. (10 Marks)

Module-3

- 5 a. With a neat block diagram, explain about CDMA network system architecture. (10 Marks)
- b. Explain about 3G CDMA. (10 Marks)

OR

- 6 a. Explain about the concept of CDMA channels. (10 Marks)
- b. Explain about Layer 3 operations. (10 Marks)

Module-4

- 7 a. Explain about channel dependent, multi-resource scheduling and signaling for scheduling in downlink and uplink. (10 Marks)
- b. With the help of neat diagram, explain how the timing and frequency synchronization is performed by the receiver to demodulate OFDM signal. (10 Marks)

OR

- 8 a. Discuss about flat IP architecture. (10 Marks)
- b. With a neat diagram, explain SC-FDE. List out the advantages and disadvantages of SC-FDE. (10 Marks)

Module-5

- 9 a. List the advantages of OFDM leading to its selection for LTE and explain. (10 Marks)
- b. With a neat block diagram of OFDMA down link transmitter and explain the principle of operation. (10 Marks)

OR

- 10 a. With a neat diagram, explain SC-FDMA uplink transmitter. (10 Marks)
- b. Explain about download link OFDMA radio receivers. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

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