



10EC81

**Eighth Semester B.E. Degree Examination, July/August 2021**  
**Wireless Communication**

Time: 3 hrs.

Max. Marks: 100

**Note: Answer any FIVE full questions.**

- 1 a. With an appropriate diagram, explain the OSI model. How does it relate to communication network? (08 Marks)  
b. Explain AMPS characteristics, channels and system components of 1 G cellular system. (12 Marks)
- 2 a. With the help of neat block diagram, explain the working of a subscriber devices. (08 Marks)  
b. What Wireless Cellular network elements are involved in a mobile originated call? Explain with block diagram. (08 Marks)  
c. Explain the function of ULR and HLR. (04 Marks)
- 3 a. Explain Capacity expansion techniques, Cell splitting and Cell Sectioning. (10 Marks)  
b. With relevant figures, explain a Typical Cellular handoff operation. (10 Marks)
- 4 a. Explain with a neat block diagram, The GSM Network Interfaces. (08 Marks)  
b. Explain the GSM hyper frame, Super frame, Multi frame and TDMA frame. (08 Marks)  
c. Describe TDMA Time Slots (04 Marks)
- 5 a. What is the basic differences between Intra – BSC – handover and Inter – BSC handover and briefly explain the same. (07 Marks)  
b. With a neat sketch, explain Radio resource connection establishment in GSM Cellular System. (10 Marks)  
c. Explain Mobile Star on Associated numbers used in GSM identities. (03 Marks)
- 6 a. Explain the basic Spectrum Spreading Operation in CDMA channel concept, with neat figures. (08 Marks)  
b. Explain with neat block diagram, CDMA reverse channel variable data rate transmission. (12 Marks)
- 7 a. Explain with neat diagram :  
i) Specialized Receiver Technology. (12 Marks)  
ii) Space Diversity. (08 Marks)  
b. Describe an OFDM modulation system.
- 8 a. Describe the basic wireless MAN and its four antenna scheme. (10 Marks)  
b. What are IEEE 802.11 extensions? (06 Marks)  
c. Explain one type of link defined by Bluetooth standard. (04 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.