

B.E. Seventh Semester (Electronics Engineering) (CGS)
11791 : Elective-I : Wireless Communication : 7 XN 04

P. Pages : 2

Time : Three Hours



AU - 2880

Max. Marks : 80

- Notes :
1. Answer **three** question from Section A and **three** question from Section B.
 2. Assume suitable data wherever necessary.
 3. Diagrams and chemical equations should be given wherever necessary.
 4. Illustrate your answer necessary with the help of neat sketches.
 5. Use of pen Blue/Black ink/refill only for writing the answer book.

SECTION - A

1. a) Explain concept of frequency reuse with example. 6
b) Compare 1st, 2nd & 3rd generation of mobile communication. 7

OR

2. a) Explain timing diagram of mobile to mobile call origination. 7
b) Discuss in brief : 6
i) Network controlled handoff.
ii) Mobile assisted handoff.
3. a) Define the following with respect to trunking theory. 7
i) Setup time ii) Blocked call
iii) Holding time iv) Traffic intensity
v) Grade of service vi) Request rate
b) Explain cell splitting & cell sectoring. 7

OR

4. a) Explain co-channel interference. Show the signal to co-channel interference ratio in a cellular system with $N = 7$ is $\frac{S}{I} = \frac{1}{2(Q-1)^{-n} + 2(Q+1)^{-n} + 2Q^{-n}}$ 8
where Q : Co-channel reuse ratio
n : path loss exponent
b) Explain TDMA and FDMA techniques in details. 6
5. a) Describe large scale & small scale propagation models. 7
b) What is coherence band width ? Derive the expression for Doppler frequency. 6

OR

6. a) Explain in brief : 6
i) Time diversity
ii) Frequency diversity technique.
b) Explain the method for controlling the fading in wireless communication 7

SECTION - B

7. a) Explain steps in call establishment in GSM using logical channels. 7
b) Explain CDPD in mobile networks. 7

OR

8. a) Explain different broadcast control channels used in GSM system. 8
b) With the help of block diagram explain signal processing in GSM. 6
9. a) Explain the reverse CDMA channel. 6
b) Explain forward traffic channel processing in IS-95 system, with the help of neat block diagram. 7

OR

10. a) Explain the importance of power control in IS-95 CDMA & hence the method to control power. 6
b) Discuss in brief the following communication channels for IS-95 standard. 7
i) Pilot channel
ii) Sync. Channel
iii) Paging channel
11. a) What is Bluetooth ? Explain base band specification. 6
b) Explain Wireless Application Protocol (WAP). 7

OR

12. a) What is Wireless LAN ? Discuss its advantages & disadvantages. 6
b) Sketch & explain the Bluetooth state transition diagram. 7
