

Time: 3 hours

Max Marks: 75

Answer any five questions  
All questions carry equal marks

- 1.a) Mention the frequency bands, multiple access, and type of modulation used for various wireless communication standards such as AMPS, IS-95, PACS, CDPD and GSM.
- b) Why do paging systems need to provide low data rates? How does a low data rate lead to better coverage? [15]
- 2.a) List the significant improvements introduced in the first, second, third generations standards of cellular communication systems.
- b) What is the difference between WLAN and Bluetooth technologies? Explain.[15]
- 3.a) What are the advantages of cellular mobile communication systems over conventional mobile telephone systems.
- b) Describe the procedure for locating the cochannel cells in the first tier using a regular hexagonal pattern for cellular architecture. Illustrate the procedure for a cluster size of 12. [15]
- 4.a) On what basis are multiple access radio protocols classified? Distinguish between various types of multiple access protocols.
- b) Suggest at least five different means to increase the radio coverage of a cell.[15]
- 5.a) What are the challenges of traffic routing in wireless networks? Explain.
- b) What common channel signaling? Discuss. [15]
- 6.a) How is GPRS technology different from GSM technology? Briefly describe the functions of those network elements in GPRS architecture which are different from GSM architecture.
- b) Describe the important functions of forward and reverse channels in W-CDMA and CDMA 2000. [15]
- 7.a) Explain the concept and salient features of IEEE 802.11 MAC layer.
- b) Compare WLAN and Hyper LAN.
- c) Compare the various enhancements of IEEE 802.11. [15]
- 8.a) What is meant by multi carrier modulations? Describe the working principle of Orthogonal Frequency Division Multiple Access Scheme.
- b) Compare single and multi channel systems. [15]