WIRELESS & MOBILE COMMUNICATION (18CSE458T)

Question Bank (Unit-1)

1. If a total of 33 MHz of bandwidth is allocated to a particular FDD cellular telephone system which uses two 25 KHz simplex channels to provide full duplex voice and control channels, compute the number of channels available per cell if a system uses (i) 4 cell reuse (ii) 7 cell reuse and (iii) 12 cell reuse.
2. What is the purpose of modulation in wireless communication? Provide examples of different modulation techniques.
3. Describe the difference between FDMA, TDMA, and CDMA in terms of multiple access techniques.
4. What is the role of base stations in cellular networks?
5. Explain the terms 'uplink' and 'downlink' in the context of wireless communication.
6. Explain the term 'bandwidth' in the context of radio frequencies.
7. How does frequency modulation (FM) differ from amplitude modulation (AM) in radio broadcasting?
8. What are the advantages of using spread spectrum techniques in radio communications?
9. Explain the concept of frequency hopping and its applications in secure communication systems.
10. Describe the concept of time slots in TDMA. How does TDMA improve spectral efficiency?
11. What is the role of spreading codes in CDMA? How does CDMA enable simultaneous transmission from multiple users?
12. Compare and contrast the synchronization requirements for TDMA and CDMA systems.
13. Explain the concept of OFDMA (Orthogonal Frequency Division Multiple Access) and its advantages in modern wireless communication systems.