**WIRELESS COMMUNICATION**

**(BTEC-601-18)**

**Unit-1:-**

**Elements of Cellular Radio Systems Design**

1. Write some examples for wireless communication system.
2. What is base station?
3. What is MSC?
4. What do you mean by forward and reverse channel?
5. Define cell
6. What is foot print?
7. What is channel assignment ? what are the types?
8. What is fixed channel assignment?
9. What is dynamic channel assignment?
10. What is hand off?
11. Define dwell time.
12. What is soft handoff?
13. What is co channel interference?
14. Define co-channel reuse ratio.
15. Define adjacent channel interference.
16. Define Grade of service.
17. What is blocked call clear system(BCC)?
18. Define cell splitting.
19. What is sectoring?
20. What is wireless communication?
21. What are the basic components of a wireless communication system?
22. What is the role of an antenna in wireless communication?
23. Explain the concept of frequency reuse.
24. What is base station?
25. What are the advantages of Small cells?

**Unit-2:-**

**Digital Communication through fading multipath channels**

1. What is propagation model?
2. Define large scale propagation model?
3. What is small scale model?
4. What is free space propagation model?
5. Define EIRP.
6. Explain path loss?
7. What is scattering?
8. Explain small scale fading?
9. What are the factors influencing small scale fading?
10. Define Doppler shift?
11. What flat fading?
12. What is frequency selective fading?
13. Define fast fading channel?
14. Define slow fading channel?
15. What is the role of modulation & Demodulation in wireless communication?
16. What is the signal-to-noise ratio (SNR), and why is it important?
17. What is the Doppler effect in wireless communication?
18. What is handover in cellular networks?
19. What is Source Encoding?
20. What is Channel Encoding?
21. What is Amplitude Modulation & Digital Amplitude Modulation?
22. Explain in detail about Modulation Techniques?
23. Explain the concept of channel fading.
24. What is the Doppler effect in wireless communication?
25. What is handover in cellular networks?
26. What is spectrum efficiency, and how is it measured?
27. What is interference in wireless communication?
28. **What is channel overlap, and why is it a concern in wireless networking?**

**Unit-3:-**

**Multiple Access Techniques for Wireless Communications**

1. Discuss on various types of wireless services and its requirements.
2. Explain in detail the evolution of wireless communication?
3. Write short notes on different trends in cellular radio & personal communication
4. Enumerate on spectrum limitation
5. Explain about noise and interference limited system
6. Briefly explain the principle of cellular networks.
7. Compare FDMA, TDMA & CDMA.
8. Discuss and explain the multipath propagation 8. Describe in detail about the history of development of Paging and the future Trends of paging systems.
9. Explain in detail the different techniques used to improve coverage &capacity of cellular system.
10. Describe in detail about the Wireless Services and it types
11. Write short notes on frequency reuse & channel assignment.
12. Explain the Multiple Access methods with neat diagrams.

**Unit-4 & 5:-**

**Wireless Systems & Standards**

**Evolution of Communication Generations**

1. What is the difference between 4G LTE and 5G?
2. What is 1G & its maximum speed?
3. What are various standards from 1G to 5G?
4. What is NR & LTE?
5. The coverage & capacity of CDMA system is more than that of GSM system a). True b). False c). Equal d). None of the above
6. Which type of access is used in GSM technology?
7. Define LTE-Advance Systems.
8. Define Bluetooth.
9. Define Zigbee.
10. Differentiate between Bluetooth & Zigbee
11. What are the emerging technologies of Wireless communication system?