AMIRAJ
COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT: COMPUTER SCIENCE & ENGINEERING SEMESTER: 7
SUBJECT NAME: MCWC
SUBJECT CODE: 2170710

MCWC QUESTION BANK

1. Define Channel Capacity. Define its key factors that affect it. Write Shannon and Nyquist capacity formula. State the key factors that affect channel capacity.
2. Compare: OSI Model and TCP/IP Protocol Architecture.
3. Draw and Explain GSM architecture with roles of its components.
4. What is Frequency Reuse? Explain with proper diagram.
5. Differentiate: Circuit Switching and Packet Switching.
6. What is Mobile IP? Explain Discovery, Registration and Tunneling with Mobile IP.
7. What is the need for ARQ? Explain Sliding Window Protocol with example.
8. Explain DECT Protocol Architecture.
9. A cellular system uses FDMA with spectrum allocation of 12.5 MHz in each direction, a guard band at the edge of the allocated spectrum of 10 KHz, and a channel bandwidth of 30 KHz. Find out number of channels available.
10. Draw and Explain Bluetooth Protocol Architecture.
11. Compare: GSM and CDMA.
12. Consider Global System for Mobile, which is TDMA/FDD system that uses 25 MHz for the forward link, which is broken in to radio channels of 200 KHz. If 8 speech channels are supported on a single radio channel and if no guard band is assumed, find the no of simultaneous users that can be accommodated in GSM.
13. Draw Android Architecture. Also explain Android Application Framework in brief.
14. What is Antenna Gain? Explain with its formula.
15. What is GPRS? How billing and charging is done in GPRS?
16. What is handoff? Explain its various types.
17. Define IMSI, IMEI and MS-ISDN and write their use.
18. Explain IEEE 802.11 Architecture.
19. Explain Wireless Application Protocol (WAP) in detail.
20. What is hidden terminal problem? How it can be avoided?
21. For Message M = 1010001101 and Pattern P = 110101, find CRC.
22. Explain Delta Modulation with their transmission and reception block diagram.
23. Define: Peak Amplitude (A), Frequency (f) and Period (T).
24. Explain different types of power control techniques in cellular networks.
25. Explain Direct Sequence Spread Spectrum in detail.
26. Explain Handoff in detail.
27. Explain Android EditText and TextView control with an example.

28. Given a channel with an intended capacity of 50 Mbps, the bandwidth of the Channel is 5 MHz. What signal-to-noise ratio is required to achieve this capacity?
29. Write a note on DECT frame format.
30. Write a note on piconet and scatternet.
31. Write advantages and disadvantages of packet switching over circuit switching.
32. Draw and explain Bluetooth protocol stack.
33. In a CDMA network, assume there are two stations A (chip sequence: 00011011) and E (chip sequence: 00101110). Figure-1 shows two cases of both stations transmitting at the same time. Show the transmitted sequences S1 and S2 and how DSSS does the recovery at receiver.

    A E

    1 0 A sent 1 and B sent 0

    0 - only A sent 0

    (Figure-1)
34. Discuss with suitable diagram distributed coordination function with IEEE 802.11 medium access control logic.
35. Explain operation of Mobile IP.
36. What is the bandwidth efficiency for FSK, ASK, PSK and QPSK for a bit error rate of 10-7 on a channel with an SNR of 12 dB?
37. Define spreading sequence. List different categories of spreading sequences. Explain Walsh code with example.
38. Why is UDP needed? Why can't user program directly access IP?
39. Define Android layout. Explain various Android layouts.
40. List all and explain any five IEEE 802.11 services.
41. Compare the LAN and WAN.
42. Define the term Multiplexing. Explain the FDM and TDM with one example each.
43. Explain the Transmission Media.
44. Explain the 1G, 2G, 2.5G and 3G Mobile Communications.
45. Explain the PLMN Interface
46. Differentiate the Wimax and WiFi.
47. Explain the WAP Stack with neat diagram
48. Explain the Android Architecture with the neat diagram.