Mobile Computing and Wireless Communication

Important Questions for GTU Exam

Unit-1

1. Explain LAN, MAN, WAN
2. Explain different types of Propagation Model.
3. Explain Chanel's capacity. Define the key factors that affect it
4. Compare the OSI Model and TCP/IP Protocol Architecture.
5. Explain the Physical and Logical architecture of wireless communication.
6. Differentiate: Circuit Switching and Packet Switching
7. Explain Wireless LAN security issues and also explain hidden & exposed terminal problems in wireless LAN.

Unit-2

1. Explain the Direct Sequence Spread Spectrum Techniques.
2. 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 the number of channels available.
3. For Message M = 1010001101 and Pattern P = 110101, find CRC.
4. Define: Peak Amplitude (A), Frequency (f), and Period (T)
5. What is Antenna Gain? Explain its formula.
6. What is Frequency Reuse? Explain with proper diagram
7. Explain the Nyquist theorem? Find the relationship among the following terms Channel Capacity (C), Bandwidth (B), and Signal-to-Noise Ratio (SNR).
8. What is multiplexing? Explain FDM and TDM in detail with one example each.
9. What is the principle of frequency reuse in the context of cellular networks? List the ways of increasing the capacity of a cellular system?
10. What are propagation modes? Explain free Space loss propagation modes in detail?
11. Explain: CDMA, TDMA, FDMA, SDMA.

Unit-3

1. Explain Terms: Hard Handoff, Soft Handoff, Softer Handoff
2. Explain the handover procedure in GSM system
3. List out GSM Specification and explain the functional architecture of GSM.
4. Explain Different types of GSM Channels.
5. Explain mobile originated call and mobile terminated call procedure.
6. Explain the GPRS functional architecture and application.
7. Differentiate CDMA technology and GSM technology.
8. Discuss the network elements in GPRS are different from GSM. Also, discuss applications and limitations of GPRS.
9. Explain GSM Architecture and the role of its components.
10. Mobile IP works?
11. Explain the Tunneling Operation in Mobile IP.
12. Explain the architecture of the IEEE 802.16 standard.
13. Explain WiMAX three-layer architecture.
14. Why conventional network IP is not suitable for mobile environments? How
15. What is GPRS? How billing and charging are done in GPRS?
16. Define IMSI, IMEI, and MS-ISDN and write their use
17. Compare the following : (i) GSM and GPRS (ii) Wimax and WiFi
18. Explain the importance of following identifiers that GSM is dealing with:
    IMEI   IMSI   MSISDN

Unit-4

1. What are piconet and scatternet? Explain. How many maximum numbers of devices can communicate within one piconet?
2. IEEE 802.11 architecture
3. Discuss with suitable diagram distributed coordination function with IEEE 802.11 medium access control logic List all and explain any five IEEE 802.11 services.
4. Explain Wireless Application Protocol (WAP) in detail.

Unit - 5

1. Explain Bluetooth Protocol Stack
2. What is the need for ARQ? Explain Sliding Window Protocol with example.
3. Explain DECT Protocol Architecture
4. What is fading? Differentiate. Fast and slow fading ii. Flat and selective fading.
5. Draw and explain Bluetooth protocol stack.

Unit-6

1. Explain the Android application framework with their components.
2. Define Android layout. Explain various Android layouts.
3. Draw and explain Android Life Cycle
4. What are Toast and Intent explain with suitable Example
5. Explain View of android
6. Explain the layout of Android Application with example
7. Prepared two-three practical so it will help you to give example in any theory of Android.