DCN

1. Which of the following best describes wireless communication?
   A Communication using physical cables
   B Communication through electromagnetic waves
   C Communication using infrared signals only
   D Communication requiring a fixed infrastructure
   Answer: B

2. What is the primary characteristic of mobile computing?
   A High processing power
   B Ability to compute while physically moving
   C Large storage capacity
   D Dependence on a wired network
   Answer: B

3. Which of the following is an example of a service enabled by wireless and mobile technologies?
   A Printing documents
   B Playing a local video file
   C Accessing the internet on a smartphone
   D Using a wired telephone
   Answer: C

4. What is the key difference between 'wireless' and 'mobile'?
   A 'Wireless' implies movement, while 'mobile' implies no physical connection.
   B 'Mobile' implies movement, while 'wireless' implies no physical connection.
   C They are the same concept.
   D One refers to hardware, the other to software.
   Answer: B

Chapter 2: Mobile Computing

5. Which of the following is NOT typically considered a challenge in mobile computing?
   A Power management
   B Network connectivity
   C User interface design for small screens
   D Unlimited bandwidth
   Answer: D

6. Android and iOS are examples of:
   A Mobile devices
   B Mobile computing technologies
   C Mobile operating systems
   D Wireless network standards
   Answer: C

7. Which technology is NOT a fundamental enabler of mobile computing?
   A Battery technology
   B Sensor technology
   C Wired network cables
   D Communication protocols
   Answer: C

Chapter 3: Wireless Network Principles

8. Electromagnetic waves are fundamental to:

A Wired communication
B Mobile operating systems
C Wireless communication
D Battery technology
Answer: C

9. What is the purpose of frequency allocation and regulation?
A To increase signal strength
B To improve battery life
C To avoid interference between different wireless services
D To reduce the cost of wireless communication
Answer: C

10. Which component is responsible for transmitting and receiving wireless signals?
A Router
B Modem
C Antenna
D Switch
Answer: C

11. Reflection, refraction, and diffraction are phenomena related to:
A Antenna design
B Signal modulation
C Signal propagation
D Frequency allocation
Answer: C

12. What is the purpose of multiplexing in wireless communication?
A To encrypt data
B To amplify the signal
C To transmit multiple signals simultaneously
D To reduce signal attenuation
Answer: C

13. Converting digital data into an analog signal for wireless transmission is called:
A Multiplexing
B Modulation
C Attenuation
D Propagation
Answer: B

14. CSMA/CA is a Media Access Control (MAC protocol used to:
A Encrypt wireless data
B Manage frequency allocation
C Prevent collisions in wireless networks
D Increase the range of wireless signals
Answer: C

Chapter 4: Wireless Local Area Networks (WLANs

15. WLAN stands for:
A Wireless Local Area Network
B Wired Local Area Network
C Wireless Long-range Network
D Wired Long-range Network
Answer: A

16. Which IEEE standard defines WLAN technologies?
A IEEE 802.3
B IEEE 802.15
C IEEE 802.11
D IEEE 802.16
Answer: C

17. HiperLAN is a set of WLAN standards primarily developed in:
A North America
B Asia
C Europe
D Australia
Answer: C

18. WPAN stands for:
A Wired Personal Area Network
B Wireless Public Access Network
C Wireless Personal Area Network
D Wired Public Access Network
Answer: C

19. Bluetooth is defined by which IEEE standard?
A IEEE 802.11
B IEEE 802.3
C IEEE 802.15.1
D IEEE 802.16
Answer: C

20. Zigbee is often used in:
A Cellular networks
B Wired LANs
C Wireless Sensor Networks
D Satellite communication
Answer: C

Chapter 5: Cellular Networks

21. The fundamental principle behind cellular networks is:
A Using high-power transmitters
B Frequency reuse
C Wired connections between base stations
D Unidirectional communication
Answer: B

22. Which of the following was a 1G cellular technology?
A GSM
B CDMA
C AMPS
D LTE
Answer: C

23. SMS was introduced with which generation of cellular networks?
A 1G
B 2G
C 3G
D 4G
Answer: B

24. GPRS and EDGE are considered:
A 1G technologies
B 2G technologies
C 2.5G technologies
D 3G technologies
Answer: C

25. Which technology is characteristic of 4G cellular networks?
A GSM
B UMTS
C LTE
D AMPS
Answer: C

26. Enhanced mobile broadband, massive machine-type communications, and ultra-reliable low-latency communications are key features of:
A 3G
B 4G
C 5G
D 2G
Answer: C

Chapter 6: Mobile Network Layer

27. Mobile IP is a protocol designed to:
A Increase data transmission rates
B Secure wireless communication
C Allow mobile devices to maintain connectivity while moving
D Manage power consumption in mobile devices
Answer: C

28. In Mobile IP, the entity responsible for maintaining the mobile node's home address is the:
A Foreign Agent
B Correspondent Node
C Mobile Node
D Home Agent
Answer: D

29. The process by which a mobile node informs its home agent about its current location is called:
A Handoff
B Tunneling
C Registration
D Encapsulation
Answer: C

30. Tunneling and encapsulation are used in Mobile IP to:
A Encrypt data transmissions
B Forward packets to the mobile node's current location
C Authenticate the mobile node
D Compress data packets
Answer: B

31. MANET stands for:
A Mobile Ad-hoc Network
B Main Area Network
C Mobile Access Network Entity

D Managed Area Network
Answer: A

32. A key characteristic of a Mobile ad-hoc network (MANET is:
A Reliance on a fixed infrastructure
B Centralized control
C Self-configuring nature
D High power consumption
Answer: C

Chapter 7: Wireless Network Security

33. A primary security challenge specific to wireless networks is:
A Physical cable damage
B Limited processing power
C Open transmission medium
D Battery drain
Answer: C

34. WEP is an example of:
A A strong wireless security protocol
B A mobile operating system
C An older wireless encryption standard with known vulnerabilities
D A type of antenna
Answer: C

35. VPN stands for:
A Virtual Private Network
B Very Public Network
C Video Processing Node
D Voice Protocol Network
Answer: A

36. How does a VPN help secure wireless transmission?
A By increasing signal strength
B By encrypting data and providing authentication
C By managing network traffic
D By preventing physical access to devices
Answer: B

37. Which of the following is an important aspect of wireless security policies?
A Physical security of devices only
B Regular software updates and strong passwords
C Ignoring guest network security
D Sharing network passwords publicly
Answer: B

38. Which of the following is NOT a fundamental concept of mobile computing?
A Portability
B Connectivity
C Context awareness
D Fixed location
Answer: D

39. Which of these is a potential issue or challenge in mobile computing?
A Unlimited battery life
B Seamless network handover

C Strong signal strength everywhere
D Security vulnerabilities
Answer: D

40. Which technology is essential for enabling location-based services on mobile devices?
A Bluetooth
B GPS
C Wi-Fi
D Zigbee
Answer: B

41. What does 'context awareness' in mobile computing refer to?
A The device's ability to process data quickly
B The device's ability to understand its surroundings and user situation
C The device's physical size and weight
D The device's ability to connect to any network
Answer: B

42. Which of the following is a function of an antenna?
A Processing data
B Storing data
C Transmitting and receiving wireless signals
D Controlling network traffic
Answer: C

43. What is the electromagnetic spectrum?
A The range of all possible radio waves
B The range of all electromagnetic radiation frequencies
C The range of visible light frequencies
D The range of sound waves
Answer: B

44. Which of the following is a type of multiplexing?
A Amplitude Modulation (AM
B Frequency Modulation (FM
C Time Division Multiplexing (TDM
D Phase Modulation (PM
Answer: C

45. What is the purpose of modulation in wireless communication?
A To amplify the signal
B To reduce noise
C To convert digital data into analog signals
D To compress data
Answer: C

46. Which of the following is a characteristic of Wireless Sensor Networks (WSNs?
A High power consumption
B Centralized control
C Spatially distributed sensor nodes
D Long-range communication
Answer: C

47. Which of the following is a key advantage of cellular networks?
A Limited mobility
B Low coverage area
C Wide area coverage

D High cost
Answer: C

48. What is 'handoff' in cellular networks?
A The process of setting up a base station
B The process of transferring a call from one cell to another
C The process of allocating frequencies
D The process of encrypting data
Answer: B

49. Which technology enabled mobile internet access in cellular networks?
A 1G
B 2G
C 3G
D 4G
Answer: C

50. What is the main goal of 5G cellular networks?
A To decrease data rates
B To increase voice call quality only
C To provide enhanced mobile broadband, massive machine-type communications, and ultra-reliable low-latency communications
D To reduce network coverage
Answer: C

51. In Mobile IP, what is the role of the Foreign Agent (FA?
A To maintain the mobile node's home address
B To forward packets to the mobile node's current location
C To communicate with the Correspondent Node
D To manage network security
Answer: B

52. What is 'tunneling' in the context of Mobile IP?
A A method of encrypting data
B A process of compressing data
C A technique for forwarding packets by encapsulating them
D A way to increase signal strength
Answer: C

53. Which type of network does NOT rely on a fixed infrastructure?
A Cellular network
B WLAN
C MANET
D Wired LAN
Answer: C

54. What is a potential vulnerability in wireless LANs?
A Physical damage to cables
B High cost of equipment
C Rogue access points
D Limited mobility
Answer: C

55. What is the purpose of wireless security policies?
A To limit network access
B To protect data and prevent unauthorized access
C To increase network speed

D To reduce network costs
Answer: B

56. Which of the following is NOT a type of service commonly associated with wireless and mobile computing?
A Voice calls
B Data transfer
C Physical mail delivery
D Location-based services
Answer: C

57. Which of the following is a key factor to consider in mobile computing?
A Device Portability
B Device Power Consumption
C Network Connectivity
D All of the Above
Answer: D

58. Which of the following is NOT a type of antenna?
A Dipole Antenna
B Yagi-Uda Antenna
C Parabolic Antenna
D Ethernet Antenna
Answer: D

59. Which of the following is NOT a type of modulation technique?
A Amplitude Modulation (AM
B Frequency Modulation (FM
C Phase Modulation (PM
D Optical Modulation (OM
Answer: D

60. Which of the following is NOT a generation of cellular networks?
A 1G
B 2G
C 3G
D 10G
Answer: D

61. Which of the following is a primary function of Mobile IP?
A To manage network security
B To improve data compression
C To enable mobile devices to maintain connectivity while moving
D To increase antenna range
Answer: C

62. Which of the following is a common security threat to wireless networks?
A Eavesdropping
B Data Theft
C Unauthorized Access
D All of the Above
Answer

Answer: D

63. What does IEEE stand for?
A Institute of Electrical and Electronics Engineers
B International Electrical Engineering Enterprise
C Internet Engineering Execution Entity
D Integrated Electronic Equipment Engineers
Answer: A

64. Which of the following is a characteristic of 4G networks?
A Circuit Switching
B Packet Switching
C Analog Transmission
D Low Data Rates
Answer: B

65. What is the primary function of a Home Agent (HA in Mobile IP?
A To manage foreign network access
B To maintain the mobile node's home address and forward packets
C To encrypt data transmissions
D To control antenna direction
Answer: B

66. Which of the following is a common technology used in Wireless Personal Area Networks (WPANs?
A Wi-Fi
B Bluetooth
C Cellular
D Satellite
Answer: B

67. What is the purpose of frequency reuse in cellular networks?
A To increase signal strength
B To reduce interference and increase capacity
C To decrease power consumption
D To simplify network management
Answer: B

68. Which of the following is a characteristic of 5G networks?
A Low latency
B High bandwidth
C Massive device connectivity
D All of the Above
Answer: D

69. In wireless communication, what is 'attenuation'?
A The process of increasing signal strength
B The decrease in signal strength over distance
C A type of modulation
D A method of multiplexing
Answer: B

70. Which of the following is a security protocol used in WLANs?
A TCP/IP
B HTTP
C WPA2

D FTP
Answer: C

71. What is the role of Media Access Control (MAC protocols in wireless networks?
A To manage network routing
B To prevent data collisions during transmission
C To encrypt data
D To control antenna direction
Answer: B

✧ By sabona Marara