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<b>Started on</b>	Thursday, 4 May 2023, 2:02 PM
<b>State</b>	Finished
<b>Completed on</b>	Thursday, 4 May 2023, 2:50 PM
<b>Time taken</b>	48 mins 3 secs
<b>Grade</b>	<b>39.00</b> out of 60.00 ( <b>65%</b> )

Question **1**

Complete

Mark 1.00 out of 1.00

The frequency range of IEEE 802.11b standard is

- ☐ a. 2.4 Gbps
- ☐ b. 5 Gbps
- ☒ c. 2.4 GHz
- ☐ d. 5 GHz

Question **2**

Complete

Mark 0.00 out of 1.00

Delay Spread is a phenomenon occurs in

- ☐ a. Frequency domain
- ☐ b. Time domain
- ☐ c. None of these
- ☒ d. Both frequency and time domain

Question **3**

Complete

Mark 0.00 out of 1.00

The energy source used in wireless sensor nodes are \_\_\_\_\_.

- ☐ a. DC Battery
- ☐ b. None of these
- ☒ c. Capacitor
- ☐ d. Inverter

Question **4**

Complete

Mark 1.00 out of 1.00

Why the shape of cell in a cellular system is hexagonal not circle?

- ☐ a. None of these
- ☐ b. Omni directionality
- ☐ c. Complex design
- ☒ d. Overlapping regions or gaps are left

Question **5**

Complete

Mark 1.00 out of 1.00

Optical communication needs line of sight for communication between transmitter and receiver.

- ☐ a. False
- ☐ b. None of these
- ☒ c. True

Question **6**

Complete

Mark 0.00 out of 1.00

The Radio Frequency Identifier tag needs Line of Sight (LoS) communication to be scanned by the Radio Frequency Identifier reader?

- ☐ a. False
- ☒ b. True

Question 7

Complete

Mark 1.00 out of 1.00

In a dense urban environment, path loss exponent  $n = 4.5$  and there are six number of channel cells in cellular system. The minimum required signal to interference ( $\frac{S}{I}$ ) ratio is 13 dB. Determine the smallest cluster size needed to maintain this minimum required

- ☐ a. 4
- ☐ b. 2
- ☒ c. 3
- ☐ d. 5

Question 8

Complete

Mark 1.00 out of 1.00

Which one of the following statement is correct?

- ☐ a. Mobile IP don't allows users to keep the same IP address while roaming
- ☐ b. None of these
- ☐ c. In Mobile IP, users changes it address to care-of-address while roaming
- ☒ d. Mobile IP allows users to keep the same IP address while roaming

Question 9

Complete

Mark 1.00 out of 1.00

Among them which one is not a multicarrier modulation technique

- ☒ a. CDMA (Code Division Multiple Access)
- ☐ b. FDM (Frequency Division Multiplexing)
- ☐ c. OFDM (Orthogonal Frequency Division Multiplexing)
- ☐ d. None of these

Question **10**

Complete

Mark 0.00 out of 1.00

Which of the following statement is incorrect

- ☐ a. In OQPSK ( Offset Quadrature Phase Shift Keying), the maximum transition between two symbols yields to a phase shift of  $\pm 180^\circ$
- ☐ b. In QPSK (Quadrature Phase Shift Keying), the maximum transition between two symbols yields to a phase shift of  $\pm 180^\circ$
- ☐ c. None of these
- ☒ d. In OQPSK ( Offset Quadrature Phase Shift Keying), the maximum transition between two symbols yields to a phase shift of  $\pm 90^\circ$

Question **11**

Complete

Mark 1.00 out of 1.00

Which of the following statement is incorrect about microcell zone concept?

- ☐ a. Reduced interference
- ☐ b. Increase in capacity
- ☐ c. No loss in trunking efficiency
- ☒ d. More number of handoffs

Question **12**

Complete

Mark 1.00 out of 1.00

SYN flooding is an \_\_\_\_\_ layer attack.

- ☒ a. Transport
- ☐ b. Application
- ☐ c. Network
- ☐ d. Data Link

Question **13**

Complete

Mark 1.00 out of 1.00

Which layer in the protocol stack is targeted for Denial of service attack?

- ☒ a. Multi Layer
- ☐ b. Network Layer
- ☐ c. Transport Layer
- ☐ d. Application Layer

Question **14**

Complete

Mark 1.00 out of 1.00

Which of the following is not a types of Spoofing?

- ☒ a. Hit and Run DDOS
- ☐ b. IP Spoofing
- ☐ c. Website Spoofing
- ☐ d. Email Spoofing

Question **15**

Complete

Mark 1.00 out of 1.00

In a wireless communication channel, a change in frequency of a EM signal causes due to

- ☒ a. Doppler shift
- ☐ b. Reflection
- ☐ c. Shadowing
- ☐ d. Multipath effect

Question **16**

Complete

Mark 0.00 out of 1.00

A base station (BS) is transmitting with a power of 75 watt at frequency  $f_c = 915$  MHz, the distance between the BS and the receiver mobile unit is 50 m. Calculate the power received **in dBm** by the mobile unit considering free space propagation, where the transmitting antenna has a unit gain and receiving antenna gain is 2 dB.

- ☐ a. -16.89 dBm
- ☒ b. 16.89 dBm
- ☐ c. -13.279 dBm
- ☐ d. 13.279 dBm

Question **17**

Complete

Mark 1.00 out of 1.00

Low energy Adaptive Clustering Hierarchy (LEACH) is \_\_\_\_\_based protocol.

- ☐ a. Data
- ☐ b. Area
- ☐ c. Star
- ☒ d. Clustering

Question **18**

Complete

Mark 0.00 out of 1.00

Determine the distance between nearest co-channel cells of a cellular system for  $i = 1$ , and cell radius 2 m

- ☐ a. 9.16 m
- ☐ b. 4.59
- ☒ c. 7.75 m
- ☐ d. 10.00 m

Question **19**

Complete

Mark 1.00 out of 1.00

In the Friis transmission equation, the power received is not a function of

- ☐ a. Distance between the transmitter and receiver
- ☒ b. None of these
- ☐ c. Transmitter power
- ☐ d. Antenna Gain

Question **20**

Complete

Mark 1.00 out of 1.00

An unauthorized access of information from a wireless device through a Bluetooth connection is called \_\_\_\_\_

- ☒ a. Bluesnarfing
- ☐ b. None of these
- ☐ c. Bluestring
- ☐ d. Blueprint

Question **21**

Complete

Mark 1.00 out of 1.00

The major constraint in a mobile sensor network (MSN) \_\_\_\_\_

- ☐ a. Power Management
- ☒ b. Mobility Management
- ☐ c. Heterogeneity
- ☐ d. Bandwidth Management

Question **22**

Complete

Mark 1.00 out of 1.00

Which one of the following statement is incorrect?

Session Initiation Protocol

- ☒ a. is a transport layer protocol, for maintaining end-to-end sessions between sender and receiver
- ☐ b. None of these
- ☐ c. is responsible to maintain, control and terminate the session of one or more than one multimedia session
- ☐ d. controls multimedia sessions on internet

Question **23**

Complete

Mark 1.00 out of 1.00

Which one of the following statement is correct?

In hidden terminal problem,

- ☒ a. Two sender nodes are not in the communication range of each other
- ☐ b. None of these
- ☐ c. Hidden terminal problem is independent of node's communication range
- ☐ d. Two sender nodes are in the communication range of each other



Question **24**

Complete

Mark 1.00 out of 1.00

The barcodes needs Line of Sight (LoS) communication to be scanned by the barcode reader?

- ☒ a. True
- ☐ b. False

Question **25**

Complete

Mark 0.00 out of 1.00

In a MACA protocol, a neighbor node near the receiver upon hearing the CTS (clear to send) packet

- ☐ a. will refrain from its transmission till the receiver receives the entire data packet
- ☒ b. All of these
- ☐ c. may initiates its data transmission process as per the requirement
- ☐ d. will send RTS (request to send) packet to the transmitter/sender

Question **26**

Complete

Mark 1.00 out of 1.00

The network security requirement needed for industrial purposes is of

- ☐ a. Level 3
- ☐ b. Level 0
- ☒ c. Level 2
- ☐ d. Level 1

Question **27**

Complete

Mark 0.00 out of 1.00

The data rate of DPSK (Differential Phase Shift Keying) is higher than BPSK (Binary Phase Shift Keying)

- ☒ a. True
- ☐ b. False

Question **28**

Complete

Mark 1.00 out of 1.00

Which layer in the protocol stack is targeted for jamming attack?

- ☐ a. Application Layer
- ☐ b. Transport Layer
- ☒ c. MAC Layer
- ☐ d. Network Layer

Question **29**

Complete

Mark 1.00 out of 1.00

The interface between the UTRAN (UMTS Terrestrial Radio Access Network) and the CN (Core Network) is

- ☐ a. None of these
- ☐ b. Iur interface
- ☐ c. Iub interface
- ☒ d. Iu interface

Question **30**

Complete

Mark 1.00 out of 1.00

Determine the signal-to-interference ratio (SIR) in dB, for path loss  $n = 3$ , and  $i = 1$ . There are 9 co-channel cells in cellular system.

- ☐ a. 4.5 dB
- ☐ b. 4 dB
- ☐ c. 5.3 dB
- ☒ d. 3 dB

Question **31**

Complete

Mark 0.00 out of 1.00

In a cellular system, the capacity of the system is directly proportional to

- ☒ a. Number of cells
- ☐ b. None of these
- ☐ c. Number of times a cluster is replicated
- ☐ d. Number of Base stations

Question **32**

Complete

Mark 0.00 out of 1.00

The data rate of BPSK (Binary Phase Shift Keying) is higher than QPSK (Quadrature Phase Shift Keying)

- ☒ a. True
- ☐ b. False

Question **33**

Complete

Mark 1.00 out of 1.00

Which among them has the strongest wireless security?

- ☐ a. WPA (Wi-Fi Protected Access)
- ☐ b. WEP (Wireless Equivalent Privacy)
- ☒ c. WPA3 (Wi-Fi Protected Access 3)
- ☐ d. WPA2 (Wi-Fi Protected Access 2)

Question **34**

Complete

Mark 1.00 out of 1.00

Which one of the following is not a characteristic of ADHOC network?

- ☒ a. Fixed infrastructure
- ☐ b. Dynamic changing topology
- ☐ c. No fixed infrastructure
- ☐ d. Energy-constrained

Question **35**

Complete

Mark 0.00 out of 1.00

Among the three basic modulation schemes which yields the minimum probability of error.

- ☐ a. BPSK (Binary Phase Shift Keying)
- ☐ b. BFSK (Binary Frequency Shift Keying)
- ☒ c. BASK (Binary Amplitude Shift Keying)
- ☐ d. All of these have the same probability of error

Question **36**

Complete

Mark 0.00 out of 1.00

Which of the following statement is incorrect

- ☒ a. In OFDM (Orthogonal Frequency Division Multiplexing), the ICI (Inter-carrier-Interference) and ISI (Inter-Symbol-Interference) problem is less.
- ☐ b. In OFDM (Orthogonal Frequency Division Multiplexing), the PARP (Peak to average power ratio) is less.
- ☐ c. None of these
- ☐ d. OFDM (Orthogonal Frequency Division Multiplexing) provides a high spectral efficiency and data rate.

Question **37**

Complete

Mark 1.00 out of 1.00

In Orthogonal Frequency Division Multiplexing, the guard interval is provided to

- ☐ a. To attain high symbol rate
- ☐ b. To maintain orthogonality
- ☒ c. To eliminate Inter Symbol Interference (ISI)
- ☐ d. None of these

Question **38**

Complete

Mark 1.00 out of 1.00

Which among the following is the least strong security encryption standard for wireless networks?

- ☐ a. Wired Equivalent Privacy (WEP)



- ☐ b. Wi-Fi Protected Access 2 (WPA2)
- ☐ c. Wi-Fi Protected Access 3 (WPA3)
- ☐ d. Wi-Fi Protected Access (WPA)

Question **39**

Complete

Mark 1.00 out of 1.00

What is a cluster in cellular system?

- ☐ a. A group of subscribers
- ☐ b. A small geographic area
- ☒ c. A group of cells
- ☐ d. A large group of mobile systems

Question **40**

Complete

Mark 0.00 out of 1.00

Which of the following is not a component of UTRAN?

- ☐ a. Firewall
- ☐ b. Node B
- ☒ c. Serving GPRS Support Node
- ☐ d. Radio Network Controller

Question **41**

Complete

Mark 0.00 out of 1.00

Which of the statement is correct among the following

- ☒ a. UMTS networks has a circuit switched element.
- ☐ b. UMTS networks has both circuit and packet switched element.
- ☐ c. None of these
- ☐ d. UMTS networks has a packet switched element.

Question **42**

Complete

Mark 1.00 out of 1.00

A sensor node can be used to

- ☐ a. monitor conditions and movements of wild animals or plants in wildlife habitats
- ☐ b. monitor biological or chemical hazards to provide early warnings
- ☒ c. All of these
- ☐ d. monitor air quality and track environmental pollutants, wildfires or other natural or man-made disasters

Question **43**

Complete

Mark 0.00 out of 1.00

Which of the following is a collection of multiple separate networks?

- ☐ a. Wide Area Networks
- ☐ b. Personal Area Networks
- ☐ c. Local Area Networks
- ☒ d. Metropolitan area network

Question **44**

Complete

Mark 0.00 out of 1.00

In cellular system, neighboring stations are assigned different group of channels to

- ☐ a. minimize area coverage
- ☐ b. maximize throughput
- ☒ c. maximize capacity of each cell
- ☐ d. minimize interference

Question **45**

Complete

Mark 1.00 out of 1.00

The bandwidth of each ARFCN (Absolute Radio Frequency Channel Number) channel and number of subscriber supported by each channel is

- ☐ a. 250 KHz, 8 users
- ☐ b. 25 MHz, 6 users
- ☐ c. None of these
- ☒ d. 200 KHz, 8 users

Question **46**

Complete

Mark 0.00 out of 1.00

The frequency range for satellite communication is

- ☒ a. 0 MHz to 30 MHz
- ☐ b. 1 GHz to 30 GHz
- ☐ c. 1 KHz to 100 KHz
- ☐ d. 100 KHz to 10 MHz

Question **47**

Complete

Mark 1.00 out of 1.00

A Bluetooth enabled wireless device supports

- ☒ a. both point-to-point and point-to-multipoint communication
- ☐ b. point-to-multipoint communication
- ☐ c. None of these
- ☐ d. point-to-point communication



Question **48**

Complete

Mark 0.00 out of 1.00

Which of the following layers provides end-to-end connectivity in a IoT network?

- ☐ a. Physical Layer
- ☐ b. Transport Layer
- ☐ c. Data Link Layer
- ☒ d. Network Layer

Question **49**

Complete

Mark 0.00 out of 1.00

Why is a cyclic prefix required in Orthogonal Frequency Division Multiplexing?

- ☐ a. None of these
- ☐ b. To ensure symbol time is an integer number
- ☒ c. To maintain orthogonality
- ☐ d. To help overcome Inter Symbol Interference (ISI)

Question **50**

Complete

Mark 1.00 out of 1.00

The interface between an mobile user and its nearest base transceiver station is

- ☒ a. Air Interface
- ☐ b. None of these
- ☐ c. Abis Interface
- ☐ d. A Interface

Question **51**

Complete

Mark 0.00 out of 1.00

A program written in Arduino IDE is called \_\_\_\_\_

- ☐ a. IDE source



- ☒ b. Source code
- ☐ c. None of these
- ☐ d. Sketch

Question **52**

Complete

Mark 1.00 out of 1.00

The different types of Wireless Sensor Networks are \_\_\_\_\_.

- ☐ a. Underwater Sensor Networks
- ☒ b. All of these
- ☐ c. Terrestrial Sensor Networks
- ☐ d. Underground Sensor Networks

Question **53**

Complete

Mark 1.00 out of 1.00

What is the use of an Radio Frequency Identifier module?

- ☒ a. Object Identification
- ☐ b. To provide 3G Connectivity
- ☐ c. To measure the Wi-Fi strength
- ☐ d. To monitor temperature

Question **54**

Complete

Mark 1.00 out of 1.00

The UMTS is based on \_\_\_\_\_ multiple access technique.

- ☐ a. FDMA
- ☒ b. CDMA
- ☐ c. SDMA
- ☐ d. TDMA

Question **55**

Complete

Mark 1.00 out of 1.00

Due to higher frequency the 5G connectivity is not great as the frequency waves are only able to travel a short distance.

- ☒ a. True
- ☐ b. False

Question **56**

Complete

Mark 1.00 out of 1.00

The wireless Adhoc network is a centralized type of network

- ☒ a. False
- ☐ b. True

Question **57**

Complete

Mark 1.00 out of 1.00

In a single sensor module, which one among the following is an optional unit

- ☒ a. Location finder or GPS
- ☐ b. Processing unit
- ☐ c. Memory unit
- ☐ d. Sensing unit
- ☐ e. Power supply unit

Question **58**

Complete

Mark 1.00 out of 1.00

The relationship between coherence time ( $\tau_c$ ) and Doppler spread ( $D_s$ ) is

- ☐ a.  $\tau_c = \frac{1}{D_s^2}$
- ☐ b.  $\tau_c = D_s$
- ☒ c.  $\tau_c = \frac{1}{D_s}$
- ☐ d. None of these

Question **59**

Complete

Mark 1.00 out of 1.00

Which layer of the protocol stack is targeted for wormhole attack?

- ☒ a. Network Layer
- ☐ b. Transport Layer
- ☐ c. Application Layer
- ☐ d. MAC Layer

Question **60**

Complete

Mark 0.00 out of 1.00

SS7 (Signaling System No. 7) protocol supports the interface between

- ☐ a. MS and BTS
- ☐ b. None of these
- ☒ c. BSC and MSC
- ☐ d. BTS and BSC

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