Name: _____ **Class:** _____ **Date:** _____ **ID: A**

F19CST8304-4A

____ 1. What is the correct mapping of 802.11 standard to frequency bands.

a. 802.11a – 5 GHz; 802.11g – 2.4 GHz; 802.11n – 5 GHz

b. 802.11a – 5 GHz; 802.11g – 2.4 GHz; 802.11n – 2.4 GHz

c. 802.11a – 2.4 GHz; 802.11g – 5 GHz; 802.11n – 2.4 GHz and 5 GHz

d. 802.11a – 5 GHz; 802.11g – 2.4 GHz; 802.11n – 2.4 GHz and 5 GHz

____ 2. What is the purpose of the Contention Window?

a. separate data frame transmissions in time

b. send user data frames in correct order

c. send an ACK before user data

d. send user data before an ACK

____ 3. Station A has an ACK frame to transmit and Station B has a data frame to transmit. Which station transmits first and why?

a. Data because it has a shorter Interframe Space

b. Data because it has a shorter Contention Window

c. ACK because it uses shorter Interframe Space

d. ACK because it has a shorter Contention Window

____ 4. What is the name of the protocol that the 802.11 standard uses for the MAC function?

a. CSMA/CA

b. CSMA/CD

c. Distributed Coordination Function

d. Distributed Access Function

____ 5. What is the difference between Channel Capacity and PHY rate?

a. PHY Rate is the maximum data rate but Channel Capacity is higher because it accounts for protocol overhead

b. PHY Rate is the maximum data rate but Channel Capacity is lower because it accounts for protocol overhead

c. Channel Capacity is the maximum data rate but PHY Rate is higher because it accounts for protocol overhead

d. Channel Capacity is the maximum data rate but PHY Rate is lower because it accounts for protocol overhead

____ 6. Select the correct mapping of band name to frequency as used by Wi-Fi?

a. UNII band operates at 3 GHz
ISM band operates in 6 GHz

b. ISM band operates at 2.4 GHz
UNII band operates at 5 GHz

c. UNII band operates at 2.4 GHz
ISM band operates in 2.4 GHz

d. UNII band operates at 2.4 GHz
ISM band operates in 5 GHz

____ 7. Which organization developed WPA2?

a. ISED
b. Wi-Fi Alliance
c. FCC
d. IEEE

____ 8. What is the purpose of scanning?

a. Access Points scan for rogue wireless stations

b. stations send beacon messages every 100 ms

c. stations discover Access Points with the required SSID

d. stations scan for clear channel before sending message

____ 9. What is the purpose of the Interframe Space?

a. send user data before an ACK

b. send user data frames in correct order

c. separate data frame transmissions in time

d. send an ACK before user data

____ 10. In North America, which channels in the ISM band are non-overlapping?

a. 1,6,12
b. 1,6,11
c. all
d. 1,4,7,11

____ 11. A station on channel 1 and another station on channel 6 detect a clear channel at the same time and are using the following parameters.

Station 1 parameters:

DIFS Wait = 34 us; Contention Window Wait = 25 us; Data Frame Transmission Time = 10 us

Station 2 parameters:

DIFS Wait = 34 us; Contention Window Wait = 25 us; Data Frame Transmission Time = 100 us

Select the correct outcome.

a. Both stations transmit at the same time and there is a collision

b. Station 1 transmits first

c. Both stations successfully transmit at the same time

d. Station 2 transmit first

____ 12. What happens after a transmission collision?

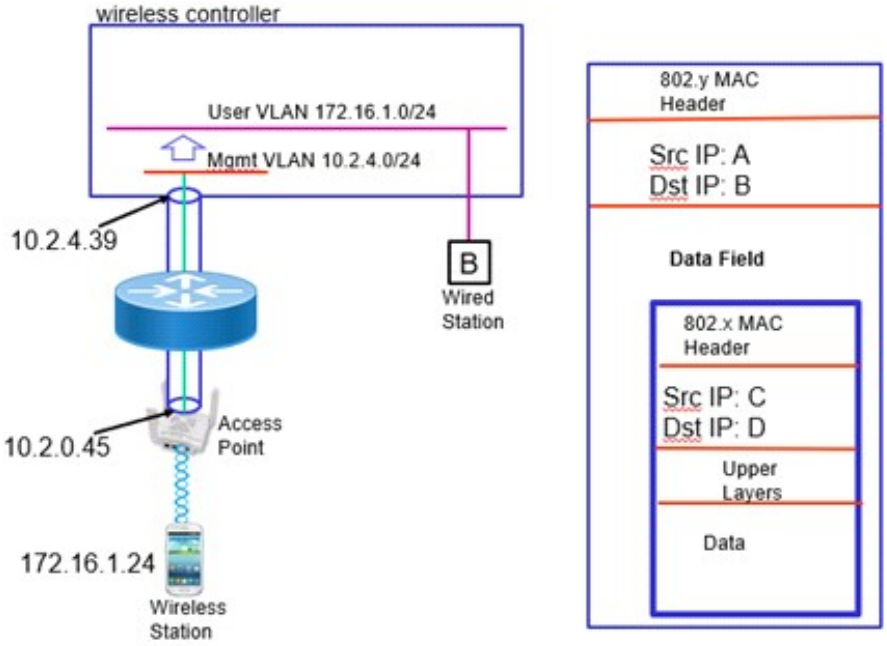
a. stations retry with a larger Contention Window and Interframe Space

b. stations retry with a larger Contention Window

c. stations retry with a larger Interframe Space

d. frame is discarded

____ 13. A frame is sent by the wireless station which includes a packet destined for a server with IP address 47.34.78.40. What is the correct mapping of IP addresses to the Tunnel address fields A,B,C,D?



a. A: 10.2.4.39 B: 10.2.0.45 C: 172.16.1.24 D: 47.34.78.40

b. A: 172.16.1.24 B: 47.34.78.40 C: 10.2.4.39 D: 10.2.0.45

c. A: 10.2.0.45 B: 10.2.4.39 C: 172.16.1.24 D: 47.34.78.40

d. A: 172.16.1.24 B: 47.34.78.40 C: 10.2.0.45 D: 10.2.4.39

____ 14. Which best describes how data is sent on Spatial Streams?

a. same data on different channels

b. same data on the same channels

c. different data on different channel

d. different data on the same channels

____ 15. What is the difference between DIFS and SIFS?

a. A station waits a DIFS interval when sending a high priority ACK but waits a SIFS when sending a low priority ACK

b. A station waits a DIFS interval when sending a data frame but waits a SIFS interval when sending an ACK

c. A station waits a SIFS interval when sending a high priority ACK but waits a DIFS when sending a low priority ACK

d. A station waits a SIFS interval when sending a data frame but waits a DIFS interval when sending an ACK

____ 16. Which of the following is <u>not</u> true regarding Virtual Carrier Sense?

a. a channel is deemed clear when the Virtual Carrier Sense timer goes to 0

b. Virtual Carrier Sense calculates the time until the channel is free

c. the Access Point has a Virtual Carrier Sense mechanism

d. Virtual Carrier Sense uses a count down timer

____ 17. In Wi-Fi, how is information added to subcarriers? Select the best answer.

a. multi-level amplitude modulation

b. phase modulation

c. frequency modulation

d. two-level amplitude modulation

____ 18. Which two messages does a wireless station send to the Access Point in order to associate?

a. Discovery and Association

b. Authentication and Association

c. Association and Connection Request

d. Authorization and Association

____ 19. Why does frame aggregation increase the protocol efficiency?

a. it increases the number of data bits for a given protocol overhead

b. it increases the protocol overhead for a given number of data bits

c. it decreases the protocol overhead for a given number of data bits

d. it decreases the number of data bits for a given protocol overhead

____ 20. How many Wi-Fi channels in the UNII band are non-lapping?

a. all
c. 5
b. 3
d. 16

____ 21. Out of Scope. What is the solution for Layer 3 Roaming?

a. Access Tunnel between the Access Point and Foreign Controller
b. Access Tunnel between the Home Controller and Foreign Controller
c. Mobility Tunnel between the Access Point and Foreign Controller
d. Mobility Tunnel between the Home Controller and Foreign Controller

____ 22. A station transmits a frame. How does the station know if there was collision?

a. corrupted message is received
b. timeout before ACK frame is received
c. Contention Window timeout
d. NACK frame is received

____ 23. In which way are a STA and an AP different?

a. An AP has a direct connection to the distribution system whereas a STA does not
b. An AP has an 802.11 compliant protocol stack whereas a STA does not
c. A STA has a direct connection to the distribution system whereas an AP does not
d. A STA has an 802.11 compliant protocol stack whereas an AP does not

____ 24. **Which scanning process is faster and why?**

a. active scanning because the station uses probe messages
b. passive scanning because the station waits for beacons
c. passive scanning because the station uses probe messages
d. active scanning because the station waits for beacons

____ 25. Which organization develops 802.11 Standards?

a. Wi-Fi Alliance
c. IEEE
b. FCC
d. ISED

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Answer Section

MULTIPLE CHOICE

1. ANS: D PTS: 1
2. ANS: A PTS: 1
3. ANS: C PTS: 1
4. ANS: C PTS: 1
5. ANS: B PTS: 1
6. ANS: B PTS: 1
7. ANS: B PTS: 1
8. ANS: C PTS: 1
9. ANS: D PTS: 1
10. ANS: B PTS: 1
11. ANS: C PTS: 1
12. ANS: B PTS: 1
13. ANS: C PTS: 1
14. ANS: D PTS: 1
15. ANS: B PTS: 1
16. ANS: A PTS: 1
17. ANS: A PTS: 1
18. ANS: B PTS: 1
19. ANS: A PTS: 1
20. ANS: A PTS: 1
21. ANS: D PTS: 1
22. ANS: B PTS: 1
23. ANS: A PTS: 1
24. ANS: A PTS: 1
25. ANS: C PTS: 1