Roll # _____ Name _____ Section _____

1. What is the primary purpose of Zigbee?

    a) High-speed internet access
    b) Low-power, low-data-rate communication
    c) Long-range cellular communication
    d) Optical fiber networking

2. Which of the following is NOT a Zigbee node role?

    a) Zigbee Coordinator (ZC)
    b) Zigbee Router (ZR)
    c) Zigbee End Device (ZED)
    d) Zigbee Switch (ZS)

3. What type of medium access control (MAC) mechanism does IEEE 802.15.4 use?

    a) CSMA/CD
    b) CSMA/CA
    c) TDMA
    d) FDMA

4. Which frequency does Z-Wave use in the United States?

    a) 2.4 GHz
    b) 908 GHz
    c) 915 kHz
    d) 908 MHz

5. How does Z-Wave handle network topology changes?

    a) Through automatic channel switching
    b) By re-establishing the mesh network using the 'Healing' process
    c) By reassigning new Home IDs to nodes
    d) By reducing the number of hops in routing

6. Which of the following is true about Z-Wave secondary controllers?

    a) They can operate without a primary controller
    b) They assist in routing but do not create routes
    c) They have full control over the network except for including/excluding nodes
    d) They function as passive nodes only

7. What is the primary advantage of RFID over barcode technology?

    a) Requires direct line-of-sight
    b) Only works at short distances
    c) Can be read without direct line-of-sight
    d) Requires manual scanning

8. Which of the following is NOT an NFC mode of operation?

    a) Peer-to-peer
    b) Read/write
    c) Card emulation
    d) Frequency hopping

9. Which Bluetooth topology connects devices in a small network?

    a) Ad-hoc network
    b) Scatternet
    c) Piconet
    d) LAN

10. Which feature in Bluetooth helps mitigate interference in the 2.4 GHz band?

    a) Orthogonal Frequency Division Multiplexing (OFDM)
    b) Carrier Sense Multiple Access (CSMA)
    c) Frequency Hopping Spread Spectrum (FHSS)
    d) Dynamic Frequency Selection (DFS)

Roll # _____ Name _____ Section _____

1. Which IEEE standard does Zigbee build upon?

    a) IEEE 802.11
    b) IEEE 802.3
    c) IEEE 802.15.4
    d) IEEE 802.16

2. What is the function of a Zigbee Coordinator (ZC)?

    a) It initiates and manages the Zigbee network

    b) It only acts as a repeater for signals

    c) It is a low-power device meant to reduce network traffic

    d) It only stores routing tables but does not transmit data

3. Which of the following best describes Zigbee's power consumption?

    a) High power, long-range
    b) Low power, low data rate
    c) High power, high data rate
    d) Medium power, high data rate

4. What is the maximum data rate of Z-Wave?

    a) 950 Kbps
    b) 100 Kbps
    c) 1 Mbps
    d) 10 Mbps

5. Which component in a Z-Wave network takes part in routing messages?

    a) Slave nodes
    b) Enhanced slave nodes
    c) End devices
    d) Passive nodes

6. Which of the following best describes Z-Wave's routing method?

    a) Dynamic source routing
    b) On-demand distance vector routing
    c) Precomputed source routing
    d) Link-state routing

7. Which type of RFID tag has its own power source?

    a) Passive RFID
    b) Semi-passive RFID
    c) Active RFID
    d) Static RFID

8. Which frequency band is used by NFC technology?

    a) 2.4 GHz
    b) 5 GHz
    c) 13.5 MHz
    d) 915 MHz

9. Which of the following is a typical application of RFID?

    a) audio streaming
    b) Smart home automation
    c) Electronic toll collection
    d) Video conferencing

10. What is the maximum number of active slaves in a Bluetooth piconet?

    a) 4
    b) 7
    c) 15
    d) 127