CBGSTE-ESE-ATKT (September 2020)

Wireless Networks (WN)

ECC801

1. In-building structures are served by: (2M)

a. Pico Cell

b. Micro Cell

c. Macro Cell

d. Global Cell

2. "The higher up a building the users are, the more likely it is that they will receive from non-intended distant base stations", this states: (2M)

a. Pilot pollution

b. Cell breathing

c. Cell Dragging

d. Better signal quality

3. Which of the following is not the advantage of UMTS dedicated indoor coverage solutions?   (2M)

a. Higher power load per unit

b. Better coverage

c. High data speed

d. All of the above

4. IEEE 802.15.3 uses   (2M)

a. FHSS

b. DHSS

c. both

d. OFDM

5. The multiple access technique is used by IEEE 802.11 standard for wireless LAN is:
                                    (2M)

a. CDMA

b. CSMA/CA

c. ALOHA

d. CSMA/CD

6. Zigbee is a commercial standard developing the application on top of which of the following standards that define PHY and MAC layers: **(2M)**

a. IEEE 802.15.4

b. IEEE 802.11

c. IEEE 802.16

d. IEEE 802.3

7. In piconet, master switches from slave-to-slave through: **(2M)**

a. Random sequence

b. FIFO

c. Interrupts

d. Round robin fashion

8. WiMAX uses the **(2M)**

a. Frequency Division Multiplexing

b. Space Division Multiplexing

c. Orthogonal Frequency Division Multiplexing

d. Time Division Multiplexing

9. In the piconet of Bluetooth one master device **(2M)**

a. Cannot be slave

b. Can be slave in another piconet

c. Can be slave in the same piconet

d. 8.13 km

10. Which of the following is the disadvantage of using multiband OFDM in HR-WPN?
(2M)

a. High spectral efficiency

b. Inherent resilience to RF interference

c. Robustness to multi-path

d. The transmitter is slightly more complex because it requires an IFFT

11. Messages used by SPIN protocol are **(2M)**

a. ADV, REQ and DATA

b. RTS and CTS

c. FIN and ACK

d. START,DATA and STOP

12. Which of the following is not a drawback of flooding? **(2M)**

a. Traffic implosion

b. overlap problem

c. resource blindness

d. gossiping

13. The three routing strategies in WSNs are **(2M)**

a. Optimal, sub-optimal and alternate

b. Proactive, reactive and hybrid

c. Data driven, bandwidth driven and optimal path

d. Cluster based, area based and traffic based

14. Which of the following protocol uses block cluster-based approach to organize nodes? **(2M)**

a. LEACH

b. SPIN

c. SMACS

d. SPAN

15. The SMACS medium access control protocol requires **(2M)**

a. FDMA like frame

b. regular neighbourhood discovery procedure on each node

c. neighbourhood discovery procedure on any single node

d. global synchronization establishment

16. Which of the following is not a performance requirement of MAC protocols in WSN? **(2M)**

a. Robustness

b. Scalability

c. Fairness

d. Limited throughput

17. Which of the following is a feature of C1WSN? **(2M)**

a. Mesh based system and multi hop radio connectivity

b. static routing and point to multipoint

c. dynamic routing and star topology based

d. single hop radio connectivity and static routing

18. The ISM band widely used for wireless sensor networks is **(2M)**

a. 906 MHz

b. 915 MHz

c. 206 MHz

d. 928 MHz

19. Data aggregation in WSN is used to **(2M)**

a. reduce bandwidth consumption, media access delay and power consumption for communication.

b. increase bandwidth and media access delay

c. reduce power consumption and increase media access delay

d. increase bandwidth and power consumption

20. In a wireless sensor network the trade-off between Network life and Throughput can be given by (N = Number of nodes) **(2M)**

a. 1+N

b. 1-N

c. $1/\sqrt{N}$

d. $1+/\sqrt{N}$

21. IEEE 802.15.3 standard has been proposed for: **(1M)**

a. Low-rate WPAN

b. High-rate WPAN

c. Mesh-based WPAN

d. both low and high rate WPAN

22. Bluetooth link supports the following links : (1M)

a. SCO

b. ACL

c. SCO or ACL

d. SCO and ACL

23. Sensor network protocol stack consists of _____ layers (1M)

a. 4

b. 5

c. 6

d. 3

24. A node that is within the range of the destination node but out of range of the transmitting node is called: (1M)

a. Invisible node

b. Missing node

c. Hidden node

d. Faulty node

25. MAC protocols for WSN can be broadly classified as (1M)

a. Schedule and contention based

b. Direct and indirect

c. Simple and complex

d. Energy efficient and non- energy efficient

26. UMTS uses which multiple access technique? (1M)

a. CDMA

b. TDMA

c. FDMA

d. SDMA

27. Which of the following is true for UMTS? **(1M)**

a. UMTS is power-limited on the downlink (DL).

b. UMTS is power-limited on the downlink (UL).

c. UMTS is noise-limited on the downlink (DL).

d. UMTS is power and noise-limited on the uplink (UL).

28. The number of time slots in one TDMA frame of GSM is: **(1M)**

a. 4

b. 6

c. 8

d. 12

29. The number of TDMA frames in a speech multiframe in GSM is: **(1M)**

a. 26

b. 51

c. 8

d. 12

30. In GSM 900 the spacing between an uplink and a downlink channel pair is: **(1M)**

a. 45 MHz

b. 20 MHz

c. 75 MHz

d. 25 MHz