Network||Midterm

Q1) A digital signal has five levels. How many bits are needed per level?

A. 3

B. 1

C. 2

D. 4

E. 5

Q2) In computer networks, several heterogeneous networks can be connected tighter in order to create a larger network that covers a larger area. Which of the following scenarios applies:

A. WANs can be connected together using routers in order to create a larger LAN.

B. Separate LANs can be connected together using routers in order to create a WAN.

C. Separate LANs cannot be connected with each other using routers.

D. WANs cannot be created from LANs.

E. None of the above.

Q3) In OSI model, there exists several layers where the data go through when sending or receiving. Which of the following is correct?

A. Physical layer is responsible for moving individual bits from the first end sender to the final end receiver of the communication.

B. Session layer translate, encrypt, and compress data.

C. Network layer is responsible for hop-to-hop delivery.

D. Application layer contains TCP protocol.

E. None of the above.

Q4) In Go Back-N protocol, the acknowledgment sequence number is:

A. The sequence number of the previous frame received.

B. The sequence number of the current frame.

C. The sequence number of the next frame to be received.

D. Has no relationship with the received frames.

E. None of the above.

Q5) What is the propagation time of a bit if the distance between two points is 12KM and the speed is 3000 m/s in cable: (Note: Numbers are chosen for easy calculation)

A. 2s

B. 4s

C. 3s

D. 6s

e. 12s

Q6) If the number of signal elements is equal to 10 and the number data elements is equal to 5. then r=

A. 10

B. 0.3

C. 0.5

D. 2

E. 5

Q7) If as sine wave offset ½ cycle with respect to time 0. What is the phase in degree?

A. 360

B. 300

C. 180

D. 100

E. 90

Q8) An analog signal carries 8 bits per signal element. If 2000 signal elements are sent per second, the bit rate will be:

A. 2000 bps.

B. 4000 bps.

C. 8000 bps.

D. 16000 bps.

E. 12000 bps.

Q9) If a wireless LAN 802.11 frame has (to DS=1) and (From DS=0), then:

A. The frame is going from the source to destination directly.

B. The frame is going from the Access point (AP) to the destination.

C. The frame is going from the Access point to next Access point (AP).

D. The frame is going from the source to the Access point (AP).

E. None of the above.

Q10) Which of the following is correct regarding the UTP cables

A. CAT3 can have lower data rate than CAT2.

B. CAT3 can have higher data rate than CAT2.

C. Noise can happen when using UTPs.

D. Both CAT2 and CAT3 cannot be used in LANs.

E. B and C.

Q11) Which of the following is correct on bit stuffing in bit oriented frames:

A. It is the process of adding one extra 0 whenever three consequent 1s follow a 0 in the data.

B. It is the process of adding one extra 0 whenever four consequent 1s follow a 0 in the data.

C. It is the process of adding one extra 0 whenever five consequent 1s follow a 0 in the data.

D. It is the process of adding one extra 0 whenever six consequent 1s follow a 0 in the data.

E. None of the above.

Q12) Which of the following is correct regarding Signal to Noise Ratio (SNR)

A. Extremely noisy channels can give high SNR value.

B. Noiseless channels can give high SNR value.

C. Noiseless channels do not give any value for SNR.

D. Noiseless channels give low SNR value.

E. None of the above.

Q13) Which of the following is correct regarding Spread Spectrum (SS)

A. SS does not combine signals from different sources.

B. SS consumes more from the available bandwidth.

C. SS does not help prevent earsdropping.

D. SS does not help prevent Jamming.

E. All of the above.

Q14) In datawords and codewordss in black coding, if k=2 and r=1. Then we have:

A. 8 datawords.

B. 4 codewords.

C. 4 datawords.

D. 7 codewords.

E. 2 datawords.

Q15) Which of the following applies on data rate limits theorems:

A. Nyquist theorem bit rate agree with the intuitive bit rate described in the baseband transmission when having gone signal level.

B. Shannon Capacity gives the lower limit of data rate transmission.

C. Nyquist tells how many signal levels are needed.

D. Shannon Capacity gives the upper limit of data rate transmission.

E. C and D.

Q16) The hamming distance d(1000100, 1101001) equals to

A. 1

B. 2

C. 3

D. 4

E. 5

Q17) Which of the following is considered a type of network topologies:

A. Star.

B. Ring.

C. Bus.

D. Mesh.

E. All of the above.

Q18) Which of the following applies on Pulse Code Modulation (PCM)

A. It changes the bits to an analog signal.

B. It cannot do quantizing for the signal samples.

C. It inputs the digital signal to be transferred to bits.

D. It inputs the analog signal to be modulated to another analog signal.

E. None of the above.

Q19) What is the type of the following destination address:

5D:20:10:21:10:1A

A. Unicast.

B. Multicast.

C. Broadcast.

D. Point to Point.

E. None of the above.

Q20) Data link layer packs bits into which of the following:

A. Segment.

B. Packet.

C. Frame.

D. Datagram.

E. Bits.

Q21) In 802.3 MAC frame, if the payload length equals to 50 then the frame length equals to:

A. 64

B. 65

C. 66

D. 67

E. 68

Q22) Bust error means that

A. 1 bit was changed.

B. 2 bits only were changed.

C. no bits were changed.

D. 2 or more bits were changed.

E. None of the above.

Q23) Which of the following is correct about Stop and Wait ARQ protocol

A. It is mainly used with noisy channels.

B. It is mainly used with noiseless channels.

C. It can send many frames in the same time without waiting for an acknowledgment.

D. A and C.

E. B and C.

Q24) Which of the following is correct regarding Analog signals:

A. The decomposition of a periodic composite signal gives us amplitude values that can be represented as spikes in the frequency domain.

B. A simple sine wave is useful in data communication to transfer different variants of data content.

C. A sine wave is a periodic signal that is composed from several simple signals.

D. The decomposition of a non-periodic composite signal gives us amplitude values that can represented as spiked in the frequency domain.

E. The decomposition of a periodic composite signal gives us amplitude values that can be represented as spikes in the time domain.

Q25) Which of the following is correct regarding physical address, logical address, and port number:

A. Physical address is a 16-bit long address.

B. Logical address is used for hop-to-hop delivery.

C. Physical address is a 32-bit long address.

D. Physical address is 6 bytes' longs address.

E. Port number is 12 hexadecimal digits address.