Version: 7.0

Question: 1

Which characteristic is an advantage of copper based media over optical fiber cable?

A. Weight
B. Corrosion resistance
C. Ability to handle analog signals
D. Susceptibility to EMI
E. Very high data rates

Answer: C

Question: 2

Which is an advantage of stranded conductors over solid conductors?

A. Less costly
B. Simpler terminations
C. Better high frequency performance
D. More flexible

Answer: D

Question: 3

Composite conductors, although not generally recommended, may be used in special circumstances because they provide all of the following advantages EXCEPT:

A. Have good digital transmission characteristics
B. Lightweight
C. Inexpensive
D. Easy to produce
E. Easily embedded into other materials

Answer: A

Question: 4

Which electrical characteristic is displayed with the correct preferred value?

A. Dielectric constant – high value
B. Dielectric strength – high value
C. Dissipation factor – low value

D. Insulation resistance - high value

Question: 5

If the input signal power to a communication system is 1 W and the output power is 1 mW, the system attenuation is:

A. 3 dB
B. 20 dB
C. 30 dB
D. 40 dB
E. 1000 dB

Question: 6

Two sinusoidal signals have the same amplitude (A) and the same frequency (f). They differ in phase by 180 degrees. If these two signals are added together, the result is a sinusoidal signal having an amplitude of:

A. Zero
B. 0.707A and a frequency of f
C. A and a frequency of 2f
D. 2A and a frequency of f
E. 2A and a frequency of 2f

Question: 7

Which of the following correctly lists the lowest frequency band to the highest frequency band?

A. MF, HF, VHF, UHF
B. UHF, VHF, HF, MF
C. HF, MF, UHF, VHF
D. VHF, UHF, MF, HF
E. HF, MF, UHF, VHF

Question: 8

The conversion of an analog speech signal to a pulse code modulation (PCM) digital signal involves all of the following steps EXCEPT:

A. Low pass filtering
B. Periodic sampling
C. Quantizing
D. Companding
E. Amplitude modulation

Answer: E

Question: 9

The signal at the input to a balanced twisted pair cable is 10 mW. The cable is 1000 feet long and has an attenuation of 1 dB per 100 feet. This cable is connected to the input of a receiver. The noise level at the input to the receiver is 1 microwatt. What is the signal-to-noise ratio (SNR) (dB) at the receiver input?

A. 10 dB
B. 30 dB
C. 40 dB
D. 60 dB
E. 100 dB

Answer: B

Question: 10

You must place CAT6 cable above a factory floor with automated welding machines and hammer forges. Of the following, what type of shielding would be most effective?

A. Multi-layer braid
B. Foil and braid
C. Solid metallic conduit
D. Flex metallic conduit
E. Sch. 40 PVC conduit

Answer: C

Question: 11

Time division multiplexing (TDM) systems are designed to transport _____ between end point systems.

A. Only analog signals
B. Only digital signals

C. A mix of both analog and digital signals
D. Both analog and digital signals, but only one type at a time

Answer: B

Question: 12

The public telephone system is an example of a _____ system.

A. Simplex
B. Half-duplex
C. Full-duplex
D. Purely analog
E. Purely digital

Answer: C

Question: 13

A reasonable approximation for the signal speed in 100 ohm balanced twisted pair cable is _____, where c is the velocity of light in free space.

A. 0.2 c
B. 0.4 c
C. 0.6 c
D. 08 c
E. 0.9 c

Answer: C

Question: 14

Assume that the optical power transmitted by a 62.5/125 multimode fiber is distributed uniformly across its core. If this fiber is perfectly coupled (i.e., the two fibers are aligned and abutted) to a 50/125 fiber, what is the percent of power that is lost?

A. 0 percent
B. 36 percent
C. 50 percent
D. 80 percent
E. 100 percent

Answer: B

Question: 15

You must place a cable between 2 equipment locations with separate grounds having a potential difference between them of 2.1 V rms. Which one of the following cables should NOT be used?

A. Multimode
B. Singlemode
C. UTP
D. STP

Answer: D

Question: 16

A video camera has a coaxial cable output. The video signal is to be distributed to devices that have balanced twisted pair inputs. The transition between these two different transmission media can be accomplished by using a:

A. Balun
B. Converter
C. Modulator
D. Cross connect
E. Transceiver

Answer: A