

BICSI RCDD-001 Exam

Volume: 358 Questions

Question No : 1

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 No : 2

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 No : 3

A SONET OC-1 channel can carry 672 voice signals and has a data rate of 51.84 Mbps. A SONET OC-48 channel can carry 32,256 voice channels. What MINIMUM data rate is required for the OC-48 channel?

- A. 155 Mbps
- B. 622 Mbps
- C. 2.5 Gbps

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D. 5 Gbps

E. 10 Gbps

Answer: C

Question No : 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

Answer: A

Question No : 5

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. 0.8 c

E. 0.9 c

Answer: C

Question No : 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:

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- 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 $2f$

Answer: A

Question No : 7

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 No : 8

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

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E. 1000 dB

Answer: C

Question No : 9

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

Answer: A

Question No : 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 No : 11

Which is an advantage of stranded conductors over solid conductors?

A. Less costly

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- B. Simpler terminations
- C. Better high frequency performance
- D. More flexible

Answer: D

Question No : 12

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 No : 13

All of the following are nominal wavelengths for laser light sources EXCEPT:

- A. 700 nm
- B. 850 nm
- C. 1300 nm
- D. 1310 nm
- E. 1550 nm

Answer: A

Question No : 14

Wave division multiplexing (WDM) is most similar to:

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- A. Amplitude modulation
- B. Frequency modulation
- C. Time division multiplexing
- D. Frequency division multiplexing
- E. Carrier sense multiple access with collision detection (CSMA/CD)

Answer: D

Question No : 15

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 No : 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

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Answer: A

Question No : 17

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 No : 18

Optical transmitters are typically one of the following types EXCEPT:

- A. Light-emitting diode (LED)
- B. Short wavelength laser compact disc (CD)
- C. Vertical cavity surface emitting laser (VCEL)
- D. Laser diode (LD)
- E. Overfilled launch (OFL)

Answer: E

Question No : 19

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

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- B. Periodic sampling
- C. Quantizing
- D. Companding
- E. Amplitude modulation

Answer: E

Question No : 20

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 No : 21

A common mode (CM) signal can be converted to a differential mode (DM) signal as a result of a(n):

- A. Unbalanced circuit
- B. Grounded circuit
- C. Poorly timed signal
- D. Improper dielectric material

Answer: A

Question No : 22

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You are placing Category 6 unshielded twisted-pair (UTP) in cable tray down a hallway past the elevator mechanical room. What action should you take to avoid effects of electromagnetic interference (EMI)?

- A. Provide a minimum separation of 1194 mm (47 in)
- B. Provide a minimum separation of 2060 mm (81 in)
- C. Require the architect to install metallic foil shielding on the mechanical room walls
- D. Provide RMC/IMC (rigid metallic conduit/intermediate metal conduit) through all areas within 4.6 m (15 ft) of the mechanical room

Answer: A

Question No : 23

The electromagnetic spectrum of visible light lies in the _____ frequency range of the spectrum.

- A. 1 GHz
- B. 100 GHz
- C. 10 THz
- D. 1 PHz
- E. 100 PHz

Answer: D

Question No : 24

The potential for _____ occurs when devices or systems share a common electromagnetic environment and their operational frequencies overlap.

- A. Electromagnetic interference (EMI)
- B. (EMC)
- C. Radio frequency interference (RFI)
- D. Fast transients

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E. Electrostatic discharge (ESD)

Answer: A

Question No : 25

Which of the following is NOT a form of signal coupling between two (2) circuits?

A. Conductive

B. Inductive

C. Reactive

D. Capacitive

E. Electromagnetic

Answer: C

Question No : 26

During a site survey you notice that several CRT displays in the vicinity of the engineering copy center have sporadic visual distortion. What is the MOST likely cause?

A. Electromagnetic interference (EMI)

B. Radio frequency interference (RFI)

C. (EMC)

D. Fast transients

E. Electromagnetic discharge (ESD)

Answer: A

Question No : 27

You are required by architectural design to place UTP cables in the same space as unshielded power lines. How should you proceed with the placement of your cables?

A. Require the architect/electrical engineer to place shielding in the space before your UTP is placed.