

Certified Technology Specialist - Design

1. Eighth-order filters are useful as _____.

A. Shelving filters

B. Low-pass filters

C. Crossover filters

D. Notch filters

Answer(s): C

2. Which of the following amplifiers would you specify for a 30 ft x 40 ft conference room with a 10 ft ceiling. The requirements are to provide a system with two front speakers, and two zones of ceiling speakers?

A. 4 Channel 300 W/Ch @ 8 Ohm

B. 4 Channel 100W/Ch @ 4 Ohm

C. 2 Channel 300 W/Ch @ 70V or 8 Ohm

D. 4 Channel 300 W/ch @ 70V or 4 Ohm

Answer(s): D

3. The total length of a measurement from a metric (SI) scaled drawing of 1:50 is 100 mm. What is the actual length?

A. 50 meters

B. 0.5 meters

C. 5 meters

D. 150 meters

Answer(s): C

4. Twisted-pair cables offer protection from electromagnetic interference by _____.

A. Shielding each pair inside a foil or braided shield

B. Comparing the signal that arrives at the destination device against a checksum

C. Exposing each wire to the same outside interference, allowing it to be canceled at the input circuit

D. Physically separating conductors from higher-voltage signals

Answer(s): C

5. In an AV project involving a courtroom, sightlines from the jury box are obscured by an architectural feature. How should the issue be addressed?

A. Move the required equipment to an unobscured location

B. Generate a request for information

C. Instruct the lead technician to request a construction change directive to address the problem

D. Consult with the end user on the best way to address the obscurity

Answer(s): B

6. What are the main systems which need to be tested in the final commissioning verification stage of a project?

A. Digitalization & decoding, random detection & accessing, intercoms

B. Audio, video, network & TELCO, electrical, RF transmission

C. Programming and accounting, sending & receiving, command & control

D. Random access & digital ranging, VHS components

Answer(s): B

7. What unseen effect occurs when the reflected sound is within the integration interval-about 30 ms for speech and 50 ms or more for music?

A. An increase in loudness

B. Echo

C. Scattering of the sound throughout the venue

D. Amplitude modulation

Answer(s): A

8. For a flat-floor auditorium with rows of staggered seats, evenly spaced for proper horizontal viewing, which row or rows will determine the preferred minimum height of the bottom of the image on a display at the front of the room?

A. Second row from the back of the room

B. Rear three rows of the room

C. Ends of the back row of the room

D. First three front rows of the room

Answer(s): B

9. If your multicast streaming AV system runs on an IPv6-based network, the group-management protocol to use is called _____.

A. Protocol Independent Multicast

B. Internet Group Management Protocol

C. Source-Specific Multicast

D. Multicast Listener Discovery

Answer(s): D

10. For a project in Europe, calculate the circuit requirements for the following rack equipment:

A. 2x 20A Circuit @ 120V Circuit

B. 2x 15A Circuit @ 230V Circuit

C. 3x 15A @ 120V Circuit

D. 1x 30A @ 230V Circuit

Answer(s): B

11. If your venue is located in an earthquake prone region, what mounting precautions need to be taken to ensure the safety and security of persons and property?

A. Ceiling speakers should be tied to the ceiling grid

B. Lightweight construction panels and AV materials should be used

C. Stabilizer arms, sway bars, and safety cables should be utilized

D. Mounted equipment should have a minimum safety factor of 3:1

Answer(s): C

12. Which of the following would not be considered part of the system drawings for an AV design?

A. DSP settings

B. Rack elevations

C. Color schemes

D. Control system flows

Answer(s): C

13. You need to project an image that has a 4:3 aspect ratio. You measure the screen height and determine that it is 2,286 mm high and 3,048 mm wide. Can you use this screen for the 4:3 image?

A. Not enough information to determine

B. No

C. All of the above

D. Yes

Answer(s): D

14. When you've identified a security risk, you can avoid it, accept it, transfer it, or _____.

A. Change it

B. Eliminate it

C. Reconfigure it

D. Mitigate it

Answer(s): D

15. A _____ uses unique, hard-coded physical addresses, known as media access control (MAC) addresses, to send data between nodes.

A. Wide area network (WAN)

B. Personal area network (PAN)

C. Local area network (LAN)

D. Global area network (GAN)

Answer(s): C

16. A video system design to transmit 4K at 60 fps, with 4:4:4 chroma sampling and 10 bits per color, requires about _____ of throughput.

A. 22 Gbps

B. 16 Gbps

C. 10 Gbps

D. 32 Gbps

Answer(s): A

17. You need to stream 10 channels of 96 kHz audio. You have 25 Mbps of bandwidth available. What is the highest bit depth you can use?

A. 32 bit

B. 24 bit

C. 48 bit

D. 26 bit

Answer(s): D

18. Technical end users are sometimes referred to as:

A. Teachers

B. Clients

C. Technology managers

D. Architects

Answer(s): C

19. Where would the person in charge of verifying system performance locate performance criteria?

A. The commissioning report

B. The original installers of the system

C. The owner's manuals

D. The project specifications

Answer(s): D

20. For measuring the light received at a particular location coming directly from a source, what measure and instrument should be used?

A. Lux or foot candles with an incident meter

B. Foot candle with a light impedance meter

C. Foot Lambert with an STL

D. Candela with an incident meter

Answer(s): A
