SIMULATION EXAM 10 — QUESTIONS 1–100

1. A CTS holder is conducting a site survey and notices the existing HVAC system produces 48 dBA ambient noise at the conference table. The room will be used for videoconferencing. The most appropriate response is:

A. Specify higher-output ceiling loudspeakers to overcome the ambient noise

B. Document the finding and recommend HVAC remediation before finalizing acoustic design

C. Reduce microphone sensitivity to reject the noise floor

D. Proceed with standard design because 48 dBA is acceptable

2. A loudspeaker produces 85 dB SPL at 1 meter with 1 watt input. What SPL does it produce with 4 watts of input at 1 meter?

A. 91 dB SPL

B. 88 dB SPL

C. 94 dB SPL

D. 85 dB SPL

3. The ANSI/AVIXA V202.01 standard addresses which aspect of AV system design?

A. Audio coverage uniformity in listener areas

B. Cabling and termination practices

C. Display image size for 2D content

D. Rack building and fabrication

4. A client requests the integrator sign a document certifying that the installed system complies with the National Electrical Code. The CTS holder does not hold an electrical contractor's license. The most appropriate response is:

A. Provide certification based on familiarity with code

B. Provide certification contingent on client waiver

C. Sub-contract with manufacturers for code documentation

D. Decline and recommend a licensed electrical contractor perform the certification

5. A 16:9 display has a diagonal of 75 inches. Approximately what is the image height?

A. 37 inches

B. 48 inches

C. 60 inches

D. 72 inches

6. A ceiling microphone array is producing intermittent dropouts during calls. No configuration changes have been made. The most appropriate first diagnostic step is:

A. Replace the microphone array immediately

B. Check if a recent network switch firmware update has affected QoS behavior

C. Increase the DSP input gain

D. Reboot the codec

7. A conference room audio system produces persistent low-frequency hum. The hum is consistent regardless of active sources. The most likely cause is:

A. Insufficient acoustic treatment

B. Incorrect DSP sample rate

C. HDMI bandwidth limitation

D. A ground loop between interconnected equipment

8. The CTS Code of Ethics and Conduct principle of "honest representation of qualifications" most directly addresses:

A. The integrator's mandatory continuing education units

B. Employer responsibility for employee credentialing

C. Accurate description of credentials, experience, and capabilities

D. Manufacturer certifications for products

9. A conferencing codec cannot register with its cloud service, though ping tests to the service succeed. The most likely cause is:

A. A firewall is blocking the specific ports the conferencing platform requires

B. The HDMI cable has failed

C. The display is incompatible with the codec

D. The microphone array has failed

10. A 70V distributed audio system uses an amplifier rated at 500 watts. Each loudspeaker is tapped at 10 watts. The maximum number of loudspeakers that can safely be connected is:

A. 30 loudspeakers

B. 35 loudspeakers

C. 45 loudspeakers

D. 50 loudspeakers

11. A client's primary day-to-day project contact is not the decision-maker with formal approval authority. The most appropriate practice is:

A. Treat the day-to-day contact as the decision-maker for efficiency

B. Confirm decisions with the approval authority in writing at each project gate

C. Request the client reassign decision authority

D. Proceed based on day-to-day verbal approvals

12. Converting 2,000 watts to BTU per hour gives approximately:

A. 2,000 BTU/hr

B. 3,500 BTU/hr

C. 6,824 BTU/hr

D. 10,000 BTU/hr

13. A CTS holder is troubleshooting a conferencing system where remote participants describe muffled, distant-sounding speech. Local audio is clear. The most likely cause is:

A. The local loudspeakers are failing

B. Microphone coverage, gain, or EQ sending to the codec is insufficient

C. The local DSP compressor is malfunctioning

D. The local room has excessive reverberation

14. An unbalanced audio connection is most appropriately used when:

A. Running a short signal within a rack between consumer-level devices

B. Interconnecting two DSP processors

C. Running a microphone over 100 feet in industrial environments

D. Connecting a wireless microphone receiver to a DSP

15. A 16:9 display has an image height of 36 inches. Applying the 4H rule, the maximum viewer distance for Analytical Decision-Making is:

A. 108 inches

B. 180 inches

C. 216 inches

D. 144 inches

16. A CTS holder is asked to install recording equipment in a healthcare facility where PHI may be captured. The most important design consideration is:

A. The recording bandwidth matches the network

B. The most expensive equipment is selected

C. The system implements HIPAA-required safeguards for PHI

D. The installation uses the same equipment as other projects

17. A network switch port has been logging intermittent link-flap events. The connected device works on other ports. The most likely cause is:

A. The device firmware is corrupted

B. The cable is the wrong category

C. The PoE budget is exceeded

D. The specific port has a hardware fault

18. The CTS credential renews on what cycle?

A. Three-year cycle with continuing education and maintenance fee

B. Annual cycle with practical examination

C. Five-year cycle with portfolio submission

D. Lifetime without renewal

19. A CTS holder is asked by a client to install hidden recording capability in a workplace without notifying room occupants. The most appropriate response is:

A. Install the recording discreetly

B. Charge a premium for covert installation

C. Decline and explain legal and ethical concerns with covert recording

D. Install with limited client disclosure only

20. A projector has 3,000 ANSI lumens projecting onto a 100-square-foot screen. The approximate illuminance is:

A. 10 foot-lamberts

B. 30 foot-lamberts

C. 100 foot-lamberts

D. 300 foot-lamberts

21. A CTS holder is reviewing a cable pathway where low-voltage control cables run directly alongside 120V branch circuit for 50 feet. The most appropriate response is:

A. Accept the parallel run

B. Add shielding to the control cable

C. Verify compliance with the electrical code's separation requirement

D. Install the cables in the same conduit

22. A CTS holder is preparing a final acceptance walkthrough with the client. The most appropriate content is:

A. The integrator's marketing portfolio

B. Internal cost accounting

C. Discussion of other projects

D. Formal demonstration of each functional requirement against the verification plan

23. Three 4-ohm loudspeakers are wired in parallel. What is the combined impedance?

A. 1.33 ohms

B. 4 ohms

C. 12 ohms

D. 2.67 ohms

24. A CTS holder has completed commissioning and the client reports users struggle to find a specific function on the touch panel. The most appropriate response is:

A. Refuse to modify the approved design

B. Investigate the usability issue, identify the specific problem, and propose targeted improvements through change order

C. Replace the panel immediately at the integrator's cost

D. Charge the client for complete interface replacement

25. The primary function of IGMP snooping on a network switch is:

A. To encrypt Ethernet frames

B. To compress network traffic

C. To authenticate connected devices

D. To limit multicast traffic to ports that have subscribed

26. A conference room's touch panel has become progressively slower to respond over six months. Other systems function normally. The most likely cause is:

A. Touch panel firmware has accumulated issues requiring reinstall or update

B. The control processor has reached end-of-life

C. The network switch is saturating

D. The touch panel hardware has failed

27. A CTS holder is preparing a scope of work for a client. The most important element to include to prevent disputes is:

A. The integrator's preferred manufacturers

B. Explicit out-of-scope exclusions

C. Detailed installation schedules

D. Biographies of the project team

28. A 70V system has 25 loudspeakers each tapped at 8 watts. The total amplifier power requirement is:

A. 100 watts

B. 150 watts

C. 200 watts

D. 300 watts

29. A CTS holder is reviewing an installation where the wireless microphone receiver is mounted inside a metal equipment rack. The most likely cause of intermittent dropouts is:

A. Battery issues

B. Incorrect DSP gain

C. Licensing issues

D. The rack is attenuating RF signal to the receiver antennas

30. A cable run of 100 meters at 1 Gbps Ethernet represents the maximum channel length for:

A. Category 5e or higher

B. Category 3

C. Category 5

D. Fiber only

31. A CTS holder has discovered during installation that the specified blocking behind a display mount has not been installed. The installation crew mobilizes in three days. The most appropriate response is:

A. Proceed with drywall anchors

B. Delay the project indefinitely

C. Notify the client and coordinate with the responsible trade to install blocking before mobilization

D. Install at an alternate location without authorization

32. Which audio signal reference is +4 dBu?

A. 0.775 V RMS

B. 1.0 V RMS

C. 2.0 V RMS

D. Approximately 1.23 V RMS

33. A CTS holder is asked whether a particular AV system complies with the Americans with Disabilities Act. The most appropriate response is:

A. Provide direct compliance based on general knowledge

B. Engage legal or compliance counsel to confirm ADA requirements

C. Decline because ADA is an architectural concern

D. Claim compliance based on manufacturer documentation

34. A CTS holder is reviewing a proposed rack elevation. The proposed layout places a power amplifier at the top of the rack. The most important concern is:

A. Heat from the amplifier rising into other equipment and the rack's center of gravity

B. The amplifier's purchase cost

C. Color coordination with other equipment

D. Access for future service

35. An AV-over-IP encoder is set to output 800 Mbps on a Gigabit Ethernet switch with no other traffic. The most likely network performance consideration is:

A. The network is insufficient for the stream

B. The switch will automatically compress further

C. Near-capacity utilization leaves little headroom for additional traffic or bursts

D. The encoder will automatically reduce to fit bandwidth

36. A CTS holder is managing a project where the client has requested a change that would compromise a safety-critical function. The most appropriate response is:

A. Process the change with a formal waiver from the client

B. Refuse to sign, explain the safety implication, and preserve the function

C. Sign the change with client risk acknowledgment

D. Decline to sign and explain why the safety requirement cannot be compromised

37. The AVIXA standard most directly addressing audio coverage uniformity in listener areas is:

A. ANSI/AVIXA V202.01

B. ANSI/AVIXA V401.01

C. ANSI/AVIXA A102.01

D. ANSI/AVIXA F501.01

38. A CTS holder is conducting a needs analysis. The most appropriate approach to stakeholder engagement is:

A. Engage stakeholders representing each relevant use case, role, and perspective

B. Engage only the highest-title stakeholder

C. Rely on the primary contact exclusively

D. Avoid direct stakeholder engagement

39. A wireless microphone produces intermittent interference during a large event. Multiple wireless systems are in use. The most likely cause is:

A. Microphone batteries are failing

B. The receiver is poorly tuned

C. The DSP is muting the signal

D. Other wireless systems operate on the same frequencies

40. A CTS holder is reviewing a proposed cable labeling scheme. The most appropriate professional practice is:

A. Handwritten labels at one end only

B. Machine-printed consistent labels at both ends, cross-referenced to documentation

C. Color coding without written labels

D. No labels; identified by pathway

41. A CTS holder is asked to evaluate whether to repair or replace a failed power amplifier. The amplifier is 8 years old. The most appropriate response is:

A. Repair immediately regardless of circumstances

B. Evaluate remaining useful life, support status, and system compatibility before deciding

C. Replace immediately regardless of cost

D. Defer the decision indefinitely

42. A CTS holder is preparing a site survey. The most appropriate preparation is:

A. Review existing architectural, electrical, mechanical, and AV documentation before arrival

B. Arrive without preparation

C. Rely on the client for all information

D. Skip the site survey

43. A client has requested immediate deletion of a recording from an AV system installation. The most appropriate response is:

A. Delete the recording from all backups immediately

B. Forward the request to the client's legal team for handling

C. Decline any involvement in content management

D. Confirm in writing with the client's legal and compliance officers before any deletion

44. A 100-foot HDMI cable carrying 4K60 4:4:4 exceeds the practical passive copper limit. An appropriate solution is:

A. Install multiple couplers between passive cables

B. Reduce resolution to 1080p

C. Use fiber-optic HDMI or HDBaseT

D. Use a longer HDMI cable

45. A CTS holder is reviewing an installation where a specific loudspeaker has stopped producing audio on a 70V system. Other loudspeakers function normally. The most likely cause is:

A. The specific loudspeaker's tap transformer or driver has failed

B. The amplifier has failed

C. The 70V line has an open circuit

D. The DSP output has stopped working

46. An AV-over-IP system has one endpoint that consistently produces higher latency than others. The most likely cause is:

A. Network congestion affecting all endpoints

B. The endpoint itself has a processing or firmware issue

C. The DSP has latency issues

D. The display refresh is slow

47. A CTS holder is writing a functional requirement. The most appropriate language is:

A. "The system shall deliver excellent audio quality"

B. "The system shall use specific brand microphones"

C. "The system shall provide uniform speech pickup across all seating positions verifiable to AVIXA standards"

D. "The system shall be modern"

48. A CTS holder is preparing as-built drawings. The most appropriate content is:

A. Original design drawings without changes

B. Marketing-style diagrams

C. Internal project management data

D. Drawings accurately reflecting the installed configuration with field changes incorporated

49. A conference room uses Dante-based audio networking. Users report periodic clicks during busy hours. The most likely cause is:

A. QoS is not configured to prioritize Dante traffic

B. The DSP needs replacement

C. The sample rate is wrong

D. The clock master has failed

50. A CTS holder is reviewing a proposed signal chain for a boardroom audio system. The chain routes microphone inputs through a DSP, then through a matrix switch, then back to the DSP, then to the amplifier. The most likely issue is:

A. Insufficient processing power in the DSP

B. Unnecessary complexity introducing potential failure points and latency

C. Lack of redundancy in the matrix switch

D. Impedance mismatch

51. A client has requested that recording capability be added to an existing conference room system. The client's primary concern is privacy. The most appropriate response is:

A. Add recording with default settings

B. Charge additional fees for privacy features

C. Engage legal and compliance teams to establish appropriate controls before adding the feature

D. Refuse the request

52. A power amplifier delivering 100 watts to an 8-ohm load develops approximately what voltage?

A. 12 volts

B. 20 volts

C. 40 volts

D. 28 volts

53. A CTS holder has completed a project and the client has requested an additional scope item during commissioning. The most appropriate response is:

A. Evaluate the change, document its scope and cost impact, and process through change order

B. Accept the addition and absorb the cost

C. Decline the request

D. Complete the addition silently if minor

54. A CTS holder is coordinating with an electrical contractor whose schedule conflicts with AV installation. The most appropriate response is:

A. Proceed around the electrical conflicts

B. Coordinate directly with the electrical contractor and client to align schedules with documented updates

C. Refuse to coordinate with other trades

D. Demand schedule changes

55. A projector lamp has been in service for 4,200 hours. The manufacturer specifies 4,000 hours replacement interval. The most appropriate response is:

A. Leave the lamp until it fails

B. Remove from service immediately

C. Adjust to low-power mode indefinitely

D. Schedule lamp replacement as soon as operationally feasible

56. A CTS holder is preparing to coordinate with a general contractor. The most appropriate approach is:

A. Avoid the general contractor

B. Communicate only through email

C. Participate in coordination meetings, align schedules, and coordinate dependencies

D. Attend only integrator-specific meetings

57. A conference room has developed persistent reverberation since hard-surface furniture was installed. The most likely cause is:

A. The audio system has failed

B. Hard surfaces produce more reflective acoustic energy than soft

C. The microphones have reached end-of-life

D. The DSP has malfunctioned

58. A CTS holder is asked to evaluate the selection of AV equipment for a new project. The most appropriate criteria include:

A. Requirements fit, quality, support availability, total cost of ownership, and compatibility

B. Only price

C. Only brand reputation

D. Only aesthetic

59. The typical bandwidth of uncompressed 4K60 4:4:4 video is approximately:

A. 1.5 Gbps

B. 3 Gbps

C. 12 Gbps

D. 48 Gbps

60. A CTS holder is managing a project with strict change control. The most appropriate approach to minor changes is:

A. Make minor changes informally

B. Ignore change control for time-saving

C. Process changes only after project closeout

D. Process all changes through formal change control regardless of size

61. A CTS holder is documenting a decision made during a client meeting. The most appropriate approach is:

A. Document in meeting minutes, share with attendees, and maintain in the project record

B. Skip documentation

C. Document only favorable decisions

D. Document in internal notes not shared

62. A CTS holder is reviewing a proposal that specifies a specific make and model of loudspeaker. The client asks about alternatives. The most appropriate response is:

A. Reject all alternatives

B. Evaluate alternatives against acoustic requirements and provide an informed recommendation

C. Substitute the cheapest alternative

D. Leave the substitution entirely to the client

63. A CTS holder is reviewing a firmware update for a DSP. Logs show intermittent issues that the update is documented to resolve. The most appropriate approach is:

A. Apply immediately to minimize downtime

B. Skip the update

C. Replace the DSP entirely

D. Back up configuration, review change logs, and schedule the update during an appropriate maintenance window

64. A 16:9 display has an image width of 104 inches. The approximate image height is:

A. 48 inches

B. 60 inches

C. 59 inches

D. 70 inches

65. A CTS holder has completed commissioning but discovered a minor defect in one functional area. The most appropriate response is:

A. Document the defect, remediate the cause, and verify the fix

B. Proceed with acceptance and address the defect later

C. Declare the project complete based on other areas passing

D. Hide the defect

66. A 500-watt UPS provides backup power to a 450-watt continuous load. The available headroom is:

A. 50 watts

B. 450 watts

C. 0 watts

D. 25 watts

67. A client's AV system is approaching end-of-support by the manufacturer. The most appropriate response is:

A. Continue using the system indefinitely

B. Develop a replacement plan with the client, including timeline and budget

C. Replace all equipment immediately at the integrator's cost

D. Remove the equipment immediately

68. A CTS holder is asked to provide references from past projects. The integrator has completed only two similar projects, but both clients declined to serve as references. The most appropriate response is:

A. Provide false references

B. Withdraw from the bid

C. Provide references to unrelated projects described as similar

D. Inform the client honestly about the reference limitation and offer alternative evidence of capability

69. A conferencing codec cannot connect to the cloud platform. All local network tests pass. The most likely cause is:

A. The display has lost signal

B. The cloud platform has authentication, DNS, or firewall-related connectivity issues

C. The codec has failed entirely

D. The network cable is damaged

70. A CTS holder is reviewing an AV installation where an existing network cable has been damaged by a renovation subcontractor. The most appropriate response is:

A. Document the damage, notify the client, and coordinate repair with appropriate cost allocation

B. Repair the cable at the integrator's expense

C. Refuse to address the damage

D. Claim the damage pre-existed

71. A CTS holder has completed installation in a courtroom. The most important verification consideration is:

A. Audio clarity, appropriate redundancy, and legal compliance for recording

B. The judge's bench aesthetic

C. The courtroom's hourly rental rate

D. The number of parking spaces

72. The AVIXA standard directly addressing rack building practices is:

A. Concerned with financial accounting

B. Focused on legal requirements for rack installation

C. Providing quantitative and procedural targets for professional rack fabrication work

D. Focused on specific manufacturer preferences

73. A CTS holder is coordinating with a union electrician for dedicated AV circuit installation. The most appropriate professional practice is:

A. Provide clear electrical specifications in advance and respect the electrician's jurisdictional authority

B. Install the circuits directly without involving the electrician

C. Require the electrician to use AV-specific practices outside their training

D. Delay AV work until replacing the electrician

74. A CTS holder is reviewing the deployment of firmware updates for 40 AV-over-IP encoders across a campus. The most appropriate approach is:

A. Apply to all 40 encoders simultaneously

B. Stage the update on a small pilot group first, verify stability, then deploy to the remaining fleet

C. Apply only to encoders with reported issues

D. Defer indefinitely

75. A CTS holder is reviewing an audio system where a ceiling microphone produces "robotic" audio. The most likely cause is:

A. The microphone capsule has failed

B. The amplifier is clipping

C. The DSP's AEC or noise reduction has been misconfigured

D. The room has new acoustic issues

76. A cable pathway design for an installation in a sound-sensitive area. The most important consideration is:

A. Use the shortest pathway regardless of impact

B. Share the pathway with other trades

C. Use consumer-grade cables

D. Route cables to avoid transmitting vibration or acoustic intrusion into the sensitive area

77. A CTS holder is preparing the final invoice for a project. The most appropriate content is:

A. A clear statement of work completed, amounts, change orders, and reference documentation

B. An invoice without documentation

C. Only the total amount

D. A simplified single-line item

78. A CTS holder is reviewing a proposed design for a large auditorium audio system. The most appropriate design approach is:

A. Conduct acoustic modeling to determine loudspeaker placement and coverage

B. Use a single high-powered loudspeaker

C. Install wireless loudspeakers for simplicity

D. Skip acoustic analysis

79. A CTS holder is managing a project with a remote client in a different time zone. The most appropriate communication approach is:

A. Use marketing-style communications

B. Minimize communication

C. Communicate only in the integrator's local time zone

D. Establish regular cadence, use appropriate collaboration tools, and document decisions

80. The standard for professional line-level audio reference is:

A. −10 dBV consumer line level

B. 0 dBFS digital reference

C. +4 dBu, approximately 1.23 volts RMS

D. 1 V peak consumer level

81. A CTS holder has discovered an error in the original design that requires rework. The most appropriate response is:

A. Acknowledge the error to the client, propose correction plan, and negotiate responsibility

B. Hide the error and deliver as-is

C. Blame the junior designer

D. Require the client to absorb full cost

82. A CTS holder is reviewing a design where the proposed equipment is inadequate for the stated use case. The most appropriate response is:

A. Install as specified and accept limitations

B. Revise the specification to match the actual requirements before installation

C. Substitute alternative equipment without client notification

D. Proceed and document limitations later

83. A CTS holder is conducting final sign-off with the client. The most appropriate preparation is:

A. Arrive unprepared

B. Prepare only agreeable content

C. Prepare verification documentation, demonstration of functional requirements, and remediation plans for any issues

D. Skip the meeting

84. A CTS holder is reviewing a proposal for a new installation. The client has a strong preference for a specific manufacturer. The most appropriate response is:

A. Ignore the preference

B. Decline the project

C. Negotiate a discount with the manufacturer

D. Design within the client's preferred ecosystem unless requirements would be compromised

85. A CTS holder is preparing closeout documentation for a project. The most appropriate package includes:

A. Only invoices

B. As-built drawings, operational documentation, training materials, commissioning results, and warranty information

C. Only the final walkthrough notes

D. The original design drawings only

86. A 16:9 display has a diagonal of 55 inches. Approximately what is the image height?

A. 27 inches

B. 36 inches

C. 45 inches

D. 50 inches

87. A CTS holder is reviewing a system where the client has requested real-time remote management. The client's IT security policy requires multi-factor authentication. The most appropriate response is:

A. Install remote access with any method

B. Use a consumer remote access tool

C. Coordinate with IT security to implement approved VPN and MFA methods

D. Refuse remote access

88. A CTS holder is reviewing an installation where the network switch has reached its maximum PoE aggregate budget. The most appropriate response is:

A. Accept the limitation and continue

B. Reduce PoE devices to fit the budget

C. Replace the switch with one having adequate PoE budget

D. Verify actual per-device power draw and coordinate switch upgrade if needed

89. A CTS holder is reviewing a design for a facility with specific disaster recovery requirements. The most appropriate design consideration is:

A. Use the lowest-cost equipment

B. Include appropriate redundancy, backup procedures, and failover planning aligned with the client's DR requirements

C. Ignore DR considerations

D. Use a single manufacturer for all equipment

90. A CTS holder is reviewing the criteria for display selection in a new conference room. The most appropriate criteria include:

A. Only the display's brand name

B. Size, resolution, ambient light performance, refresh rate, and connection types

C. Only the display's diagonal

D. Only the display's purchase price

91. A CTS holder is reviewing network infrastructure for an AV-over-IP deployment. The most important considerations are:

A. Only the brand of the network switch

B. Only the switch's PoE budget

C. Adequate bandwidth, QoS configuration, and multicast support

D. Only the cable category

92. A project has encountered a scope expansion driven by a change in the client's requirements. The client has signed the change order. The most appropriate approach is:

A. Absorb the additional work

B. Refuse to complete the work

C. Renegotiate the rate post-completion

D. Track and invoice the additional work per the approved change order

93. A CTS holder is reviewing a design for a video wall. The most important design consideration for the viewer experience is:

A. Pixel pitch, viewing distance, content type, and ambient light compatibility

B. Manufacturer marketing

C. Equipment aesthetic

D. Rental pricing

94. A conferencing codec has been producing excellent audio for two years but has recently developed intermittent "robotic" sounding audio. The cloud platform has rolled out a new audio codec. The most appropriate response is:

A. Replace the codec hardware

B. Review codec compatibility and adjust DSP or codec settings to accommodate the new platform

C. Disable the cloud platform

D. Downgrade to the previous platform version

95. A CTS holder is conducting a final client walkthrough. The walkthrough should most appropriately include:

A. A formal demonstration of each functional requirement against the verification plan

B. Presentation of the integrator's internal cost accounting

C. Review of the integrator's project management software

D. Discussion of other projects the integrator is pursuing

96. A CTS holder is managing a client who has delegated decision-making to multiple subordinates. The most appropriate approach is:

A. Make decisions without client input

B. Seek client sign-off on every minor decision

C. Establish decision authority levels, document who decides what, and ensure appropriate approvals are captured

D. Ignore the delegation

97. The typical bandwidth of uncompressed 1080p60 4:4:4 video is approximately:

A. 500 Mbps

B. 3 Gbps

C. 6 Gbps

D. 12 Gbps

98. A CTS holder has been asked to participate in a lessons-learned review. The most appropriate contribution is:

A. Honest observations of what worked well, what did not, and specific recommendations for future projects

B. Only positive observations

C. Blame assignment to specific individuals

D. No participation

99. A CTS holder is finalizing a design. The most important document for the client to receive is:

A. The integrator's marketing materials

B. Competitor pricing comparisons

C. A requirements document with traceable acceptance criteria

D. Internal financial data

100. A CTS holder is managing an ongoing client relationship post-project. The most appropriate approach is:

A. Market aggressively for new projects

B. Contact only when billing

C. Avoid client contact after closeout

D. Maintain appropriate communication, provide proactive support information, and be responsive to questions or concerns

SIMULATION EXAM 10 — ANSWER KEY AND FULL EXPLANATIONS

1. B — Document the finding and recommend HVAC remediation before finalizing acoustic design. 48 dBA ambient noise is significantly above the 30–40 dBA typical for conference rooms and directly undermines speech intelligibility and videoconferencing audio quality. Compensating with louder speakers or reduced microphone sensitivity only masks the underlying problem while degrading user experience. Addressing the HVAC noise source delivers the clean acoustic baseline that design requires.

2. A — 91 dB SPL. Power doubling adds +3 dB to SPL. Going from 1W to 4W represents two doublings (1→2→4), adding 6 dB total. Starting from 85 dB: 85 + 6 = 91 dB SPL. This foundational power-to-SPL relationship drives amplifier sizing decisions in every audio system design.

3. C — Display image size for 2D content. ANSI/AVIXA V202.01 establishes the 4H and 6H rules governing the relationship between image height and viewing distance for Analytical Decision-Making and Basic Decision-Making tasks. Audio coverage, cabling, and rack standards are addressed by different AVIXA publications, each with its own specific scope.

4. D — Decline and recommend a licensed electrical contractor perform the certification. Electrical code compliance certification is the licensed electrical contractor's domain, not the CTS holder's. Providing such certification outside the appropriate licensure creates legal liability for the integrator firm and violates the honest-representation principle of the Code of Ethics. The professional response directs the client to qualified licensure.

5. A — 37 inches. For a 16:9 display, image height ≈ diagonal × 0.49. So 75 × 0.49 ≈ 37 inches. This quick calculation is used throughout design for display sizing verification against viewing distance requirements.

6. B — Check if a recent network switch firmware update has affected QoS behavior. Audio dropouts in a system working reliably for an extended period, without any AV-side changes, point to external causes — and network switch firmware updates commonly alter QoS markings that affect time-sensitive audio traffic. Replacement or reboot actions without diagnosis waste effort on symptoms rather than root cause.

7. D — A ground loop between interconnected equipment. Persistent low-frequency hum (typically 60 Hz mains frequency) consistent regardless of source is the classic signature of a ground loop

where multiple paths to electrical ground allow induced currents to circulate. Acoustic treatment, sample rate, and HDMI bandwidth produce different symptom patterns.

8. C — Accurate description of credentials, experience, and capabilities. The honest-representation principle requires CTS holders to accurately describe their qualifications without overstating expertise or misrepresenting others' work as their own. This is a foundational ethical commitment, distinct from continuing education requirements or manufacturer certifications.

9. A — A firewall is blocking the specific ports the conferencing platform requires. When basic connectivity works (ping succeeds) but service registration fails, the issue is typically specific ports blocked by firewall or security policy. Cloud platforms require defined UDP and TCP ports that must be opened for signaling and media — coordination with IT resolves the firewall rule.

10. D — 50 loudspeakers. On a constant-voltage distribution, maximum loudspeakers = amplifier wattage ÷ per-loudspeaker tap: 500 ÷ 10 = 50. Professional practice typically applies a safety margin below this arithmetic maximum, but 50 is the upper limit before overload.

11. B — Confirm decisions with the approval authority in writing at each project gate. Proceeding on verbal approvals from a contact without sign-off authority is a common cause of late-stage scope rejection. Written confirmation from the actual decision-maker creates accountability and prevents downstream disputes where approvals are challenged.

12. C — 6,824 BTU/hr. Conversion: 1 watt = 3.412 BTU/hr, so 2,000 × 3.412 = 6,824 BTU/hr. This calculation is essential for coordinating AV equipment heat loads with mechanical engineering cooling design, ensuring adequate HVAC capacity for the rack.

13. B — Microphone coverage, gain, or EQ sending to the codec is insufficient. When local audio is clear but remote participants hear muffled speech, the issue is in the local-to-far-end signal path — microphone coverage gaps, weak gain, or EQ that removes intelligibility frequencies. Local loudspeakers, compressor, and room reverberation don't affect what's transmitted.

14. A — Running a short signal within a rack between consumer-level devices. Unbalanced connections are only appropriate for short, low-noise environments with consumer-level signals. Microphone runs, DSP interconnects, and wireless receiver outputs all require balanced interconnect to reject induced noise over meaningful distances.

15. D — 144 inches. The 4H rule for Analytical Decision-Making specifies maximum viewer distance = image height × 4. So 36 × 4 = 144 inches (12 feet). This is the limit beyond which viewers cannot resolve detail-content tasks adequately.

16. C — The system implements HIPAA-required safeguards for PHI. Healthcare facilities capturing PHI are regulated under HIPAA, requiring specific technical safeguards including encryption, access controls, and audit logging. Bandwidth, equipment cost, and standardization are secondary to the regulatory compliance requirement.

17. D — The specific port has a hardware fault. When the same device works on a different port of the same switch, the device and PoE aggregate budget are ruled out. Individual port faults — damaged pins, degraded electronics, or port-level configuration issues — are the remaining explanation.

18. A — Three-year cycle with continuing education and maintenance fee. The CTS credential operates on a three-year renewal cycle requiring accumulated Renewal Units through documented continuing education activities, along with a maintenance fee. Alternative renewal structures misrepresent AVIXA's actual program.

19. C — Decline and explain legal and ethical concerns with covert recording. Covert recording of workplace conversations without occupant notification raises serious legal issues in most jurisdictions (wiretapping statutes, privacy law, labor regulations) and violates the CTS Code of Ethics. Premium pricing, concealment techniques, or client disclosure alone don't overcome these concerns.

20. B — 30 foot-lamberts. Illuminance = lumens ÷ area: 3,000 ÷ 100 = 30 foot-lamberts. This baseline calculation (before screen gain) is the starting point for projector-to-screen brightness evaluation and ambient light planning.

21. C — Verify compliance with the electrical code's separation requirement. Parallel runs of signal and power cables for 50 feet are subject to code-specified separation distances for safety and noise reasons. The professional response references the applicable code standard rather than reactively shielding or sharing conduits.

22. D — Formal demonstration of each functional requirement against the verification plan. Final walkthroughs demonstrate the system against the approved requirements — the basis of acceptance. Marketing, internal costs, or unrelated project discussions have no place in client acceptance sessions that determine whether the project meets its stated goals.

23. A — 1.33 ohms. Three 4-ohm loudspeakers in parallel combine as $1 \div (1/4 + 1/4 + 1/4) = 4/3 \approx 1.33$ ohms. This impedance is below most amplifiers' minimum load rating and would overload the output stage, illustrating why parallel loudspeaker wiring requires careful impedance calculation.

24. B — Investigate the usability issue, identify the specific problem, and propose targeted improvements through change order. Post-commissioning usability feedback is legitimate input requiring investigation of the specific issue and targeted improvement. Refusing, free full redesigns, or wholesale panel replacement all misread the appropriate professional response.

25. D — To limit multicast traffic to ports that have subscribed. IGMP snooping allows switches to observe IGMP messages and forward multicast traffic only to ports where a subscriber has joined the group, preventing multicast flooding across all ports. This is essential for scalable AV-over-IP multicast deployments.

26. A — Touch panel firmware has accumulated issues requiring reinstall or update. Progressive slowdown of a touch panel over months while other systems work normally typically indicates software accumulation — cache bloat, pending updates, or firmware defects. Clean reinstall or firmware update resolves this; hardware replacement is premature without diagnosis.

27. B — Explicit out-of-scope exclusions. Disputes on AV projects most often arise from ambiguity about what was and was not included. Explicit exclusions prevent scope creep, protect both parties, and establish a clear basis for change-order decisions when new scope is requested.

28. C — 200 watts. Total load = loudspeakers × tap: 25 × 8 = 200 watts. This is the minimum amplifier rating for the system; professional practice typically adds 20% headroom for safety, suggesting a 240W minimum amplifier in this scenario.

29. D — The rack is attenuating RF signal to the receiver antennas. Metal enclosures act as Faraday cages that significantly block RF transmission. Professional installations remote the antennas outside the rack using antenna relocation kits to maintain line-of-sight with wireless transmitters. Battery, DSP gain, and licensing don't match the intermittent dropout pattern specifically tied to rack-mounted receivers.

30. A — Category 5e or higher. 100 meters at 1 Gbps Ethernet is the maximum channel length supported by Cat5e, Cat6, Cat6A, and higher categories. Category 3 and early Category 5 cannot support gigabit Ethernet reliably; fiber is optional, not required.

31. C — Notify the client and coordinate with the responsible trade to install blocking before mobilization. Mobilizing before site conditions are ready produces wasted labor cost and schedule damage. The professional response identifies the issue early and resolves it through trade coordination before arriving on site, preserving both schedule and cost efficiency.

32. D — Approximately 1.23 V RMS. Professional line level of +4 dBu corresponds to approximately 1.23 V RMS (0.775 V × 10^(4/20)). This is the nominal interconnect voltage between professional audio devices and is foundational to understanding gain structure.

33. B — Engage legal or compliance counsel to confirm ADA requirements. ADA compliance is a legal determination requiring qualified counsel, not a CTS holder's general assurance. Dismissing ADA, relying on manufacturer documentation alone, or providing direct assurances all misrepresent the professional role.

34. A — Heat from the amplifier rising into other equipment and the rack's center of gravity. Power amplifiers are both heavy (favoring bottom placement for stability) and heat-generating (favoring bottom placement so rising heat doesn't contaminate other equipment's intake). Top placement violates both principles. Purchase cost, color, and service access are secondary considerations.

35. C — Near-capacity utilization leaves little headroom for additional traffic or bursts. Running 800 Mbps on a Gigabit link uses 80% of capacity, leaving only 200 Mbps for other traffic including

bursts, handshakes, and control. Good practice keeps average utilization well below 70% to accommodate variability.

36. D — Decline to sign and explain why the safety requirement cannot be compromised. Safety requirements are non-negotiable and cannot be signed away by client acceptance or liability waiver. The Code of Ethics places public safety among its foundational principles, and signing such a change order violates that commitment regardless of client pressure.

37. C — ANSI/AVIXA A102.01. This is the Audio Coverage Uniformity in Listener Areas standard, which defines permissible SPL variation across a listening space and the measurement methodology used to verify compliance.

38. A — Engage stakeholders representing each relevant use case, role, and perspective. Effective needs analysis requires input from all relevant stakeholders — different users, different roles, different perspectives. Single-contact or highest-title-only engagement misses critical use cases; refusing direct engagement abdicates professional responsibility.

39. D — Other wireless systems operate on the same frequencies. Large events attract many wireless devices (presentation systems, personal microphones, vendor equipment) in the same RF bands. Frequency coordination among these systems is the standard resolution. Battery, receiver tuning, and DSP muting are not typical root causes at scale.

40. B — Machine-printed consistent labels at both ends, cross-referenced to documentation. Professional labeling requires durability, consistency, both-end identification, and cross-reference to documentation for service access. Handwritten labels, one-end-only labels, color alone, or no labels all fail the industry-standard practice.

41. B — Evaluate remaining useful life, support status, and system compatibility before deciding. Repair-vs-replace decisions require evaluating multiple factors — remaining service life, manufacturer support, spare parts availability, role in a matched system. Age-only or cost-only decisions miss relevant factors; deferred decisions leave the client unserved.

42. A — Review existing architectural, electrical, mechanical, and AV documentation before arrival. Pre-survey document review lets the surveyor arrive with informed questions, verify drawings against reality, and identify conflicts early. Unprepared arrival, client dependency, or skipping the survey all produce inadequate survey outcomes.

43. D — Confirm in writing with the client's legal and compliance officers before any deletion. Recording deletion may have legal retention implications — litigation holds, regulatory requirements, chain-of-custody concerns. The integrator should not unilaterally delete content; legal and compliance authorization protects both parties.

44. C — Use fiber-optic HDMI or HDBaseT. 100 feet exceeds passive copper HDMI's practical limit for 4K60 4:4:4 (approximately 25 feet). Fiber or HDBaseT provide professional solutions for this distance. Couplers, resolution reduction, or longer passive cables all produce unreliable results.

45. A — The specific loudspeaker's tap transformer or driver has failed. When one loudspeaker in a 70V system fails while others function, the issue is local to that loudspeaker. Amplifier, line, or DSP failures would affect multiple loudspeakers.

46. B — The endpoint itself has a processing or firmware issue. When one endpoint has consistently higher latency than others on the same network, the issue is specific to that endpoint — processing, firmware, or decoding. General network congestion affects all endpoints; display refresh affects video rendering but not network-side latency.

47. C — "The system shall provide uniform speech pickup across all seating positions verifiable to AVIXA standards". A well-formed functional requirement is specific, measurable, solution-neutral, and traceable to standards. Vague quality language, brand-specific requirements, and "modern" placeholders all fail the requirement-writing standard.

48. D — Drawings accurately reflecting the installed configuration with field changes incorporated. As-built drawings document what was actually built, with field changes incorporated from original design. Unchanged originals don't capture installation reality; marketing diagrams aren't technical documentation; internal data doesn't serve client operational needs.

49. A — QoS is not configured to prioritize Dante traffic. Clicks during busy network hours indicate time-sensitive audio packets are being delayed by other traffic. QoS configuration (DSCP marking and 802.1p priorities) prioritizes audio over general traffic. DSP replacement, sample rate changes, or clock master additions don't address the root cause.

50. B — Unnecessary complexity introducing potential failure points and latency. Professional signal flow design minimizes unnecessary device transitions. Routing through the DSP twice with a matrix switch in between introduces conversion latency, adds failure points, and makes troubleshooting harder without functional benefit.

51. C — Engage legal and compliance teams to establish appropriate controls before adding the feature. Recording content with privacy implications requires appropriate technical and procedural controls established by qualified specialists. Default settings, fee-based approaches, or refusal all fail to address the privacy compliance need properly.

52. D — 28 volts. Using $V = \sqrt{(P \times R)} = \sqrt{(100 \times 8)} = \sqrt{800} \approx 28.28$ volts RMS. This is the voltage across the 8-ohm load at full amplifier output, a foundational calculation for amplifier-loudspeaker matching.

53. A — Evaluate the change, document its scope and cost impact, and process through change order. Additional scope during commissioning is still additional scope, regardless of project phase. The disciplined change-order process protects both parties; informal acceptance, refusal, or silent completion all erode project discipline.

54. B — Coordinate directly with the electrical contractor and client to align schedules with documented updates. Trade coordination requires direct communication with all affected parties,

with the client kept informed. Proceeding around conflicts creates rework; refusing coordination isolates the integrator; demanding changes damages trade relationships.

55. D — Schedule lamp replacement as soon as operationally feasible. The lamp is 200 hours past the manufacturer's specified replacement interval, in the zone of increasing failure probability. Proactive replacement maintains performance and prevents in-service failure at inopportune times.

56. C — Participate in coordination meetings, align schedules, and coordinate dependencies. General contractor coordination is ongoing participation, not avoidance. Integrator-only meetings, email-only communication, or minimal participation all miss the cross-trade coordination that construction projects require.

57. B — Hard surfaces produce more reflective acoustic energy than soft. Reverberation issues following furniture change from soft to hard is a direct acoustic effect — sound energy that soft surfaces absorbed now reflects back into the room. Audio system, microphone, and DSP failures don't explain the correlation with furniture change.

58. A — Requirements fit, quality, support availability, total cost of ownership, and compatibility. Equipment selection is multi-dimensional — how well equipment fits requirements, its quality, whether support is available, total lifecycle cost, and compatibility with other components. Single-criterion selection produces equipment that fails on other dimensions.

59. C — 12 Gbps. Uncompressed 4K60 4:4:4 at 8-bit color requires approximately 12 Gbps of bandwidth. This drives the need for HDMI 2.0 or 10-gigabit Ethernet infrastructure for uncompressed distribution. HDMI 2.1 at 48 Gbps supports 8K and higher refresh rates.

60. D — Process all changes through formal change control regardless of size. Change control discipline applies to all changes — consistent process builds project integrity. Informal minor changes accumulate into significant uncontrolled scope; ignoring change control defeats its purpose; post-closeout processing creates contractual issues.

61. A — Document in meeting minutes, share with attendees, and maintain in the project record. Decision documentation captures what was agreed, circulates it for confirmation, and preserves it in the project record. Skipping, selective, or internal-only documentation all fail the professional standard.

62. B — Evaluate alternatives against acoustic requirements and provide an informed recommendation. Alternative equipment may be suitable, may not be, or may be suitable with modifications. Professional evaluation against requirements produces the informed recommendation. Blanket rejection, cost-based selection, or client delegation fail the advisory role.

63. D — Back up configuration, review change logs, and schedule the update during an appropriate maintenance window. Firmware updates require disciplined change management — backup for recovery, change log review for impact understanding, and scheduled timing to minimize

disruption. Immediate application, skipping, or replacement all fail professional change management.

64. C — 59 inches. For 16:9 with image width 104 inches, image height = 104 × (9/16) ≈ 58.5 inches, approximately 59 inches. This follows directly from the 16:9 aspect ratio relationship.

65. A — Document the defect, remediate the cause, and verify the fix. Functional requirements either pass or fail verification; a failed requirement must be resolved through investigation, remediation, and re-verification before acceptance. Deferred defects, pass-based declarations, or concealment all fail the acceptance standard.

66. A — 50 watts. UPS capacity − load = 500 − 450 = 50 watts of headroom. This is the remaining capacity available for load growth or transients, a critical measure of system resilience to power events.

67. B — Develop a replacement plan with the client, including timeline and budget. Manufacturer end-of-support is a predictable transition requiring proactive planning — timeline, budget, equipment selection. Indefinite continuation, immediate blanket replacement, or reactive removal all produce worse outcomes than systematic planning.

68. D — Inform the client honestly about the reference limitation and offer alternative evidence of capability. The Code of Ethics requires honest representation of qualifications and experience. Fabricating references, providing unrelated projects as similar, or withdrawing without explanation all violate professional integrity and damage trust when discovered.

69. B — The cloud platform has authentication, DNS, or firewall-related connectivity issues. When all local network tests pass but cloud platform connection fails, the issue is at the platform or intermediate connectivity. Hardware failure, display issues, or cable damage don't produce this specific connectivity pattern.

70. A — Document the damage, notify the client, and coordinate repair with appropriate cost allocation. Damage caused by a third party is not the integrator's financial responsibility, but professional service includes documenting the damage and coordinating repair with appropriate cost allocation. Absorbing cost, refusing, or false pre-existing claims all fail the professional service standard.

71. A — Audio clarity, appropriate redundancy, and legal compliance for recording. Courtroom AV is high-stakes — audio clarity for the record, redundancy against failure during proceedings, legal compliance for how recordings are made and preserved. Aesthetic, rental rates, and parking are not AV design considerations.

72. C — Providing quantitative and procedural targets for professional rack fabrication work. The ANSI/AVIXA rack building standard establishes how rack work should be done — cable management, blanking panels, grounding, airflow — providing targets for professional practice. Financial, legal, and manufacturer-preference scopes are different topics.

73. A — Provide clear electrical specifications in advance and respect the electrician's jurisdictional authority. Professional coordination with licensed trades requires clear specifications, respect for jurisdictional boundaries, and recognition that each trade owns its scope. Bypassing, demanding non-trade practices, or replacing the electrician all violate professional norms.

74. B — Stage the update on a small pilot group first, verify stability, then deploy to the remaining fleet. Staged rollouts contain the blast radius of any problematic firmware release to a small test population. Simultaneous deployment to 40 encoders exposes every endpoint to a single release defect; targeted-only updates miss the benefit of proactive improvement.

75. C — The DSP's AEC or noise reduction has been misconfigured. "Robotic" audio from a microphone array often results from AEC misconfiguration (distorting the reference subtraction) or noise reduction set too aggressively. Capsule failure, amplifier clipping, or room acoustics produce different patterns.

76. D — Route cables to avoid transmitting vibration or acoustic intrusion into the sensitive area. Sound-sensitive areas require pathway consideration to prevent vibration and acoustic transmission. Shortest-pathway routing, shared pathways, or consumer-grade cables all fail to preserve the acoustic environment.

77. A — A clear statement of work completed, amounts, change orders, and reference documentation. Final invoices connect work to payment with appropriate detail and references. Undocumented invoices, total-only invoices, or simplified single lines don't support the client's verification and payment processes.

78. B — Conduct acoustic modeling to determine loudspeaker placement and coverage. Auditorium audio systems require quantitative acoustic modeling to determine loudspeaker count, type, placement, and processing. Single-high-powered, wireless-for-simplicity, or skipping analysis all produce predictably inadequate results.

79. D — Establish regular cadence, use appropriate collaboration tools, and document decisions. Remote client management requires structured communication — regular cadence, appropriate tools, and documented decisions. Marketing-style communications, minimal communication, or time-zone-only approaches all fail the remote relationship's communication needs.

80. C — +4 dBu, approximately 1.23 volts RMS. The professional line-level reference is +4 dBu, which corresponds to approximately 1.23 V RMS. This is the nominal interconnect level between professional audio devices, distinct from consumer level (−10 dBV), digital reference (0 dBFS), or arbitrary 1 V peak.

81. A — Acknowledge the error to the client, propose correction plan, and negotiate responsibility. The Code of Ethics requires honest acknowledgment of mistakes and their correction. Concealment, blame attribution, or cost-shifting all violate professional integrity and undermine the client relationship.

82. B — Revise the specification to match the actual requirements before installation. Inadequate specifications discovered before installation must be revised through appropriate change management. Installation with known inadequacy, silent substitution, or post-installation documentation all produce worse outcomes.

83. C — Prepare verification documentation, demonstration of functional requirements, and remediation plans for any issues. Sign-off meetings require comprehensive preparation — verification content, live demonstration, and remediation plans. Arriving unprepared, agreeable-only content, or skipping all fail the meeting's purpose.

84. D — Design within the client's preferred ecosystem unless requirements would be compromised. Client preferences for specific manufacturers often reflect legitimate factors — operational consistency, existing expertise, service relationships. Honoring the preference is appropriate when it meets requirements; ignoring, declining, or negotiating discounts all misread the professional situation.

85. B — As-built drawings, operational documentation, training materials, commissioning results, and warranty information. Project closeout documentation enables client operation and future service — requiring multiple document types. Invoice-only, walkthrough-notes-only, or original-drawings-only don't meet the comprehensive operational need.

86. A — 27 inches. For a 16:9 display with diagonal 55 inches, image height = diagonal × 0.49 ≈ 27 inches. This quick calculation is the standard approach for determining display height from diagonal.

87. C — Coordinate with IT security to implement approved VPN and MFA methods. Remote access is a legitimate operational need that must operate within the client's security framework. Consumer tools, any-method implementation, or categorical refusal all fail to meet one or both requirements.

88. D — Verify actual per-device power draw and coordinate switch upgrade if needed. PoE switch ratings are aggregate budgets; actual per-device draw is typically less than maximum. Verification before action is the professional approach, with switch upgrade as the appropriate response if actual demand exceeds budget.

89. B — Include appropriate redundancy, backup procedures, and failover planning aligned with the client's DR requirements. Disaster recovery requirements vary by client criticality; appropriate redundancy and backup should align with documented requirements. Lowest-cost, ignoring DR, or single-manufacturer approaches all fail to match the actual requirement.

90. B — Size, resolution, ambient light performance, refresh rate, and connection types. Display selection requires multiple criteria considered together — for viewing, content, ambient conditions, and integration. Single-criterion selection (brand, diagonal, price) produces displays inappropriate for the use.

91. C — Adequate bandwidth, QoS configuration, and multicast support. AV-over-IP network evaluation includes per-stream bandwidth, aggregate network capacity, QoS prioritization, and multicast support. Single-criterion evaluation misses dimensions that determine system reliability.

92. D — Track and invoice the additional work per the approved change order. Approved change orders establish the basis for scope additions, schedule adjustments, and cost recovery. Absorbing work, refusing, or post-completion renegotiation all fail the change order's terms.

93. A — Pixel pitch, viewing distance, content type, and ambient light compatibility. Video wall viewer experience depends on pixel pitch (minimum viewing distance), viewing distance (perceived resolution), content (graphic vs. photographic), and ambient light (brightness requirements). Marketing, aesthetic, and rental pricing don't drive viewing experience.

94. B — Review codec compatibility and adjust DSP or codec settings to accommodate the new platform. Platform-side codec changes often require endpoint configuration adjustment. Hardware replacement, disabling the platform, or downgrading are disproportionate responses to a configuration-level issue.

95. A — A formal demonstration of each functional requirement against the verification plan. Final walkthroughs demonstrate the system against approved requirements — the basis of acceptance. Internal cost accounting, project management tools, or unrelated opportunities have no place in client acceptance sessions.

96. C — Establish decision authority levels, document who decides what, and ensure appropriate approvals are captured. Delegated decision-making requires clear authority mapping. Unilateral decisions exceed integrator authority; all-decisions-to-top wastes time; single-contact approaches ignore the delegation.

97. B — 3 Gbps. Uncompressed 1080p60 4:4:4 video requires approximately 3 Gbps of bandwidth. This was the foundation of 3G-SDI and is the reference point for understanding higher-resolution bandwidth requirements.

98. A — Honest observations of what worked well, what did not, and specific recommendations for future projects. Lessons-learned reviews serve organizational improvement through honest observation. Positive-only observations hide learning; blame assignment doesn't produce improvement; no participation wastes the learning opportunity.

99. C — A requirements document with traceable acceptance criteria. The requirements document is the foundation for design, verification, and acceptance. Marketing materials, competitor pricing, and internal financial data don't serve the client's need to understand and verify the system they're accepting.

100. D — Maintain appropriate communication, provide proactive support information, and be responsive to questions or concerns. Post-project relationships require appropriate communication

— proactive where valuable, responsive always. Aggressive marketing, billing-only contact, or avoidance all fail the professional relationship and may cost future opportunities.