

# PRACTICE EXAM 5: CTS-D SIMULATION (110 QUESTIONS)

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**Time Limit: 180 minutes | Passing Score: 70%**

1. During construction administration, an integrator submits a product data sheet for a DSP processor but the document shows handwritten notes in the margin modifying specifications. The appropriate review response is:

- A. Approve the submittal as-is given the integrator's good-faith notes
- B. Return for resubmission with clean, unmodified manufacturer documentation
- C. Accept the handwritten modifications as integrator clarifications
- D. Approve pending verification during installation

2. An AV integrator issues a Request for Information asking whether the specified 85-inch display can be substituted with a 75-inch due to unavailability. The designer's first evaluation criterion should be:

- A. Whether the integrator's cost savings are substantial
- B. Whether the 75-inch is the same manufacturer
- C. Whether the model is in stock at the local supplier
- D. Whether the 75-inch display still meets the DISCAS image height requirement for the specified viewing distance

3. At a weekly OAC meeting, the general contractor reports that AV rough-in is 2 weeks behind schedule. The AV designer's appropriate participation is:

- A. Identify specific AV-related schedule risks and propose coordination actions to recover schedule
- B. Defer the discussion to the AV integrator alone
- C. Accept the delay as the contractor's responsibility
- D. Request formal extension of the AV contract

4. A field observation report documents a conflict between a ceiling projector location and a fire sprinkler head. The resolution sequence per proper coordination practice is:

- A. The integrator relocates the sprinkler head
- B. The AV designer modifies the projector location unilaterally
- C. Coordinated meeting with GC, fire protection contractor, and AV integrator to determine best relocation strategy
- D. The fire marshal decides

5. An AV integrator submits a cable schedule showing 247 cables; the detailed schematic shows 232 cable connections. The designer's review response is:

- A. Approve the cable schedule as-is since excess cables don't hurt
- B. Return requesting reconciliation between cable schedule and schematic with notation of the 15-cable discrepancy
- C. Accept the integrator's count as field-validated
- D. Require the integrator to cut the excess cables

6. An AV integrator requests an extension due to delayed receipt of a long-lead-time LED video wall. The appropriate contract response is:

- A. Evaluate the claim against documented lead time specifications, determining whether the delay is within integrator control
- B. Approve the extension without investigation
- C. Reject the extension request as the integrator's responsibility
- D. Negotiate a reduced scope

7. During a punchlist walk-through at substantial completion, the owner identifies a display that was installed 2 inches higher than specified. The designer's appropriate response is:

- A. Require the integrator to lower the display at integrator expense
- B. Accept the installation if it is functionally acceptable
- C. Mark as cosmetic and acceptable
- D. Document as punchlist item requiring integrator remediation per the dimensioned elevation specification

8. An AV integrator submits a list of 12 control system scenarios for review before programming. The designer's appropriate review priority is:

- A. Each scenario's technical implementation details
- B. Whether the scenarios fit within the allocated programming budget
- C. Whether each scenario matches the specified user experience and use case requirements
- D. The integrator's preference for user interface style

9. At project close, the integrator provides as-built drawings showing 3 device locations that differ from the original construction drawings. The designer's verification is:

- A. Compare the as-builts against the actual installed condition to verify drawing accuracy
- B. Accept the as-builts at face value
- C. Reject as-builts requiring all devices returned to original positions
- D. Require new field observation

10. A field observation identifies that an AV integrator is routing audio cables in parallel with power cables for a 25-foot run in the same cable tray. The immediate coordination action is:

- A. Accept if the audio cables are shielded
- B. Direct the integrator to separate signal classes or add a pathway barrier per specifications
- C. Note in observation report and move on
- D. Approve the arrangement

11. An AV integrator submits training documentation for a 50-user corporate facility. The training proposal is one 30-minute group session. The designer's review is:

- A. Approve as adequate scale
- B. Require individual one-on-one training
- C. Require tiered training matching audience — brief end-user sessions plus separate technical staff training
- D. Reject and specify online-only training

12. The AV integrator requests owner approval to substitute specified cable manufacturer with equivalent product. The coordinating process is:

- A. Integrator decides without review

- B. Owner's preference decides
- C. AV designer decides alone
- D. Formal substitution request with specification-compliance verification submitted during bid period or via change request during construction

13. A commissioning technician reports that measured SPL in a conference room is 72 dBA at one position against a specified 75 dBA target with ACU Standard tolerance. This measurement is:

- A. Within the  $\pm 3$  dB tolerance band (72–78 dBA) — passing
- B. Below target — failing
- C. Acceptable with owner approval
- D. Requires adjustment to exactly 75 dBA

14. During installation, the integrator identifies that the electrical contractor has omitted a specified isolated ground receptacle. The integrator's appropriate response is:

- A. Install a standard receptacle with an adapter
- B. Submit an RFI to the AV designer for direction on the missing receptacle
- C. Accept the standard receptacle and proceed
- D. Contact the owner directly

15. A designer reviews commissioning test results for a 4K projection system showing ISCR of 38:1 against specified 50:1 BDM target. The cause most likely is:

- A. Projector lamp end-of-life
- B. Display panel defect
- C. Source device misconfiguration
- D. Excessive ambient light contribution to the screen surface

16. An AV integrator submits a network configuration document showing all AV devices on a single VLAN. The designer's review should:

- A. Approve for simplicity of network management
- B. Approve with notation
- C. Return requiring network segmentation per specifications with separate AV-over-IP, AV control, and AV management VLANs
- D. Request the IT team's review only

17. The designer conducts a pre-commissioning site visit 2 weeks before substantial completion. The appropriate observation priorities are:

- A. Readiness of infrastructure, quality of installed equipment, and preparation for commissioning activities
- B. Final commissioning test results
- C. User training effectiveness
- D. Post-occupancy issues

18. During a coordination meeting, the lighting designer proposes a color temperature of 3500 K for a video conference room. The AV designer's response is:

- A. Accept if it meets  $CRI \geq 90$
- B. Raise the concern that 3500 K is not optimal for daylight-mixed video conferencing and propose 4000–5000 K tunable white
- C. Defer to the lighting designer
- D. Request a client decision

19. An AV integrator requests approval for a time-and-material contract change. The appropriate formal documentation is:

- A. Verbal approval with email confirmation
- B. RFI response
- C. Field observation entry
- D. Formal change order with documented scope, pricing, and schedule adjustments signed by owner and GC

20. A pre-commissioning site visit reveals that rack equipment is installed but network configurations are incomplete. The designer's observation report should:

- A. Praise the integrator for progress
- B. Ignore configuration items
- C. Specifically identify incomplete network configuration as a commissioning prerequisite requiring completion before verification
- D. Recommend accepting partial commissioning

21. An owner occupies a facility 2 weeks before substantial completion and reports that the AV system "doesn't work." The designer's investigation priority is:

- A. Determine if the system is at a design-specification condition or below it, and distinguish between user error and system deficiency
- B. Immediately reject the installation
- C. Accept the owner's report at face value
- D. Refer to manufacturer warranty

22. A design development drawing shows a ceiling speaker at the center of a 30-foot conference room. At design review, the architect notes that this location conflicts with a light fixture. The response is:

- A. Lighting takes precedence
- B. AV takes precedence
- C. Coordinated meeting identifies optimal placement considering both lighting and AV acoustic requirements
- D. Client decides aesthetically

23. A commissioning technician reports that a specified DSP does not retain configuration after power cycle. The appropriate response is:

- A. Replace the DSP
- B. Accept the behavior
- C. Request firmware update from manufacturer
- D. Document as defective work requiring integrator remediation before acceptance

24. An AV integrator submits a warranty letter stating 1-year coverage against the specified 2-year requirement. The designer's review is:

- A. Return requesting 2-year warranty coverage per specification
- B. Accept the 1-year coverage
- C. Accept with owner approval only
- D. Approve partial compliance

25. A designer reviews commissioning documentation and finds SPL test results for only 3 of 5 specified listener positions. The appropriate response is:

- A. Accept partial testing

- B. Approve with notation
- C. Require completion of all 5 positions per specification before verification acceptance
- D. Recommend alternative verification approach

26. An RFI asks whether a 4K display can be replaced with two stacked 2K displays to achieve similar image height. The designer's evaluation is:

- A. Approve as equivalent
- B. Evaluate against DISCAS requirements, viewing distance calculations, and content delivery implications — typically not equivalent due to bezel, sync, and image coherence issues
- C. Defer to integrator
- D. Approve with notation

27. At project close, the integrator submits final as-built drawings. The designer's review should verify:

- A. Graphic quality only
- B. Title block formatting only
- C. Revision table currency
- D. Accuracy of as-built drawings against the actual installed condition, including any field changes, substitutions, and additions

28. A punchlist item reads "Touch panel does not display correct room name." This is categorized as:

- A. Non-conforming work — programming does not match specified content
- B. Incomplete work
- C. Cosmetic issue only
- D. Defective hardware

29. The general contractor schedules commissioning 3 days before substantial completion. The AV designer's concern is:

- A. Commissioning has been properly scheduled
- B. Schedule is late but acceptable
- C. Insufficient time for comprehensive commissioning — the schedule should allow 2 weeks minimum for verification activities including remediation time
- D. Schedule is early

30. An AV integrator submits a sequence of events for control system programming showing a 5-step "Meeting Start" scenario. The designer's review priority is:

- A. Number of steps
- B. Whether the 5-step sequence delivers the specified user experience — often requiring reduction to 1-2 steps for ease of use
- C. Programming complexity
- D. Cost impact

31. A field observation identifies that the specified conduit has been substituted with a smaller diameter by the electrical contractor, exceeding 40% fill. The integrator's response is:

- A. Accept the smaller conduit
- B. Continue installing cables and note the conduit issue in the field report
- C. Accept with owner approval
- D. Submit an RFI and coordinate with electrical contractor and AV designer for resolution

32. A designer reviewing submitted training materials notices they reference the wrong software version. The review response is:

- A. Return requesting current version documentation before approval
- B. Accept with notation
- C. Approve as adequate
- D. Require redelivery of training

33. A punchlist walk-through identifies 23 items requiring attention. The designer's documentation should:

- A. List items generally
- B. Document each item specifically with reference to specification, acceptance criteria, and expected resolution
- C. Prioritize items without documentation
- D. Let the integrator determine importance

34. An AV integrator requests release of retainage before all punchlist items are resolved. The designer's appropriate response is:

- A. Recommend full release
- B. Recommend partial release
- C. Recommend retainage be withheld per contract until punchlist resolution and final acceptance criteria are met
- D. Refer to owner

35. A commissioning report shows one display color Delta E of 6.8 against corporate specification target of  $\Delta E < 5$ . This measurement is:

- A. Acceptable for corporate applications

- B. Within tolerance
- C. Requires integrator adjustment
- D. Fails specification and requires remediation

36. A designer reviewing the integrator's rack elevations finds heavy equipment placed at the top of the rack. The review response is:

- A. Accept if the rack is securely anchored
- B. Return requesting that heavy equipment be placed in the lower rack units for stability and thermal management
- C. Accept with notation
- D. Require review only

37. During a pre-commissioning inspection, the designer observes that cable labels are missing from 30% of installed cables. The response is:

- A. Direct the integrator to complete cable labeling per RP-38-17 specifications before commissioning begins
- B. Require labeling during commissioning
- C. Accept partial labeling
- D. Schedule labeling as punchlist item

38. An AV integrator reports that a specified amplifier model has been discontinued by the manufacturer. The integrator's formal response procedure is:

- A. Substitute with a similar model without notification
- B. Halt work until reassignment
- C. Submit a formal substitution request with performance comparison documentation for designer review
- D. Accept revised scope without change order

39. A coordination meeting identifies that structural steel placement conflicts with a specified ceiling speaker cluster in an auditorium. The AV designer's response is:

- A. Accept any placement the structural engineer recommends
- B. Insist on original speaker placement
- C. Defer to GC
- D. Coordinate with structural engineer to identify alternate cluster location that maintains coverage uniformity requirements

40. The designer reviews commissioning documentation and finds no verification results for specified microphone polar pattern performance. The response is:

- A. Accept based on manufacturer specifications
- B. Request verification testing per AVSPV methodology including polar pattern confirmation in the installed environment
- C. Approve commissioning as adequate
- D. Skip the verification

41. An AV integrator requests approval to modify specified control system programming to match their programmer's preference. The designer's response is:

- A. Return requesting that programming match the specified user experience and scenario logic, not programmer preference
- B. Accept programmer preference
- C. Approve the modification
- D. Defer to integrator

42. At substantial completion walk-through, the owner notes an odd audio artifact during playback. The designer's appropriate response is:

- A. Accept the artifact as within tolerance
- B. Dismiss as user error
- C. Require immediate correction
- D. Document as punchlist item with specific description, requiring integrator diagnosis and remediation

43. A commissioning report shows 8 of 10 microphones pass specified sensitivity tests. The appropriate response is:

- A. Accept 8/10 as acceptable
- B. Approve with notation
- C. Require integrator to investigate and correct the 2 failing microphones before verification acceptance
- D. Replace only the failing microphones without investigation

44. An RFI asks whether a specified ceiling-mounted projector can be wall-mounted for easier service access. The designer's evaluation is:

- A. Evaluate against viewing angle and throw distance requirements — wall mounting typically changes projection geometry requiring complete re-engineering
- B. Approve as equivalent
- C. Accept for service convenience
- D. Defer to integrator

45. During commissioning, the designer observes that automated lighting scenes triggered by the AV control system produce inconsistent results across different rooms. The issue is likely:

- A. Control system timing conflicts

B. Inconsistent lighting protocol configuration across spaces requiring coordinated programming across the room set

C. Hardware failure

D. Cable issues

46. An AV integrator submits a change order requesting additional cable pulls due to field conditions. The designer's evaluation is:

A. Approve automatically

B. Reject unconditionally

C. Evaluate the change order against original specified conditions, determining if the integrator's cost is reasonable and field conditions are documented

D. Defer to owner

47. A designer reviews commissioning measurements and finds audio latency of 85 ms from source to loudspeaker. The design specification calls for under 20 ms for live reinforcement. This:

A. Fails specification requiring investigation of latency sources and remediation

B. Is acceptable

C. Requires minor adjustment

D. Is within tolerance

48. The AV designer observes at a commissioning walk-through that training documentation has been provided but users have not yet been trained. The appropriate observation is:

A. Recommend training be scheduled before substantial completion per contract requirements

B. Accept documentation as adequate

C. Shift training responsibility to post-occupancy

D. Specifically require that training delivery be completed per contract before substantial completion

49. A specification conflict emerges where Division 27 requires HDCP 2.3 but Division 26 electrical section references HDCP 2.2. The resolution is:

- A. Division 26 governs
- B. Division 27 governs
- C. Coordinated addendum resolving the conflict and specifying the current HDCP 2.3 requirement
- D. Integrator decides

50. A designer review of integrator training plans finds that IT and facilities staff training is scheduled on consecutive days without opportunity for knowledge consolidation. The response is:

- A. Accept the schedule
- B. Request spreading the training with opportunity for staff to apply knowledge between sessions
- C. Combine into a single session
- D. Skip facilities training

51. At project close, the integrator submits a warranty registration spreadsheet showing 8 devices registered and 4 not registered. The designer's response is:

- A. Accept partial registration
- B. Defer to owner
- C. Require warranty registration
- D. Require completion of warranty registration for all covered equipment before final acceptance

52. A post-occupancy evaluation 6 months after opening reveals that users consistently struggle with the touch panel interface. The most likely root cause is:

- A. Insufficient user experience testing and iteration during design development rather than a hardware issue

- B. Hardware malfunction
- C. Incorrect training
- D. Wrong specification

53. An AV integrator submits a service contract for 24/7 support after warranty. The designer's review priority is:

- A. Service cost alone
- B. Integrator's preference
- C. Service scope matching the operational criticality — response times, SLAs, escalation paths, and covered equipment
- D. Contract duration

54. A commissioning report lists 15 pass/fail verification items, with 2 noted as "Not tested — will be addressed post-occupancy." The designer's response is:

- A. Accept the notation
- B. Require completion of all verification items before acceptance per AVSPV requirements
- C. Approve partial testing
- D. Defer to owner

55. An integrator submits submittal for a DSP with notation "equivalent to specified brand." The designer's review:

- A. Approve as integrator has claimed equivalence
- B. Approve with notation
- C. Accept with field verification
- D. Return requesting documented performance comparison against specified product's performance criteria

56. A designer reviewing the integrator's scheduled commissioning activities identifies only SPL verification listed for a specified full-system verification. The response is:

- A. Require complete AVSPV verification scope per design specifications including all audio and video verification items
- B. Approve limited scope
- C. Defer to integrator
- D. Accept SPL-only verification

57. An AV integrator requests owner direct-purchase of equipment to save cost. The designer's evaluation is:

- A. Approve for cost savings
- B. Reject
- C. Evaluate integration implications — direct-purchased equipment may lack integrator warranty coverage and coordination
- D. Refer to owner

58. At project close, the designer finds that administrative credentials for networked AV devices have not been transferred to the owner. The response is:

- A. Accept credentials remain with integrator
- B. Require secure transfer of all administrative credentials to the owner per specifications and closeout requirements
- C. Accept with notation
- D. Defer credentials to post-occupancy

59. The designer reviews commissioning results showing multicast traffic flooded to all switch ports. The issue is:

- A. Network hardware failure
- B. Cable issue
- C. Switch model inadequate
- D. IGMP snooping misconfiguration on the network infrastructure requiring network team coordination

60. An AV integrator submits detailed schematic drawings in vector format. At closeout, only PDF copies are delivered. The designer's response is:

- A. Require native vector source files along with PDFs per specifications supporting future modification
- B. Accept PDFs
- C. Accept with payment hold
- D. Require re-delivery

61. A commissioning report shows display luminance measurements exceeding manufacturer-specified values by 15%. The potential cause is:

- A. Display malfunction
- B. Specification error
- C. Measurement calibration error or display in abnormal mode — requires investigation of measurement methodology and display configuration
- D. Normal variation

62. An AV integrator requests schedule extension due to integrator's staffing issues. The designer's evaluation is:

- A. Approve automatically

- B. Evaluate against contract terms — integrator-caused delays typically are not grounds for extension
- C. Reject unconditionally
- D. Defer to owner

63. A designer's field observation identifies that backed-out cables are still in the cable tray during cable pull. The response is:

- A. Permit backed-out cables
- B. Require removal
- C. Note in report
- D. Direct removal of backed-out cables to maintain pathway capacity and prevent future service confusion

64. An AV integrator submits a firmware list showing proposed firmware versions for installed equipment. The designer's review priority is:

- A. Versions should match manufacturer-current releases at time of installation, with planned firmware maintenance schedule
- B. Integrator preference
- C. Always the latest version
- D. Always the older, stable version

65. A commissioning walk-through identifies that acoustic treatment has been installed but has gaps in coverage. The response is:

- A. Accept the partial coverage
- B. Adjust specifications
- C. Require completion of acoustic treatment per specifications before acoustic verification
- D. Rework specifications

66. An integrator's final invoice is submitted including 15% beyond contracted work for "miscellaneous coordination." The designer's recommendation to the owner is:

- A. Approve payment
- B. Review for documented additional work via change orders; undocumented work should not be paid without change order approval
- C. Reject all payment
- D. Approve 10%

67. The designer reviews a post-project debrief identifying recurring issues across multiple projects. The appropriate action is:

- A. Share with integrator only
- B. Share with owner only
- C. Document as lessons learned for internal knowledge base, sharing with team for continuous improvement
- D. Ignore

68. An AV integrator submits a cable labeling plan showing handwritten labels on adhesive tape. The specification requires heat-shrink printed labels per RP-38-17. The response is:

- A. Reject as non-compliant and require specification-conforming heat-shrink printed labels
- B. Accept handwritten labels
- C. Accept with notation
- D. Require both types

69. A designer reviewing commissioning records notices that the PTP synchronization timing offset is 1.8 microseconds between two ST 2110 devices. This:

- A. Is acceptable
- B. Is within tolerance
- C. Requires adjustment
- D. Exceeds sub-microsecond ST 2110 requirement and requires network infrastructure remediation

70. An AV integrator requests deletion of specified bonus flashcards from the scope. The designer's response is:

- A. Approve deletion
- B. Evaluate against specifications — bonus items specified as deliverables require scope change through formal change order
- C. Reject deletion
- D. Accept without documentation

71. A designer identifies that the integrator has used a different cable manufacturer than specified but with equivalent performance data. The review:

- A. Approve the equivalent cable if the substitution was submitted during the allowed period and performance criteria are met
- B. Reject unconditionally
- C. Accept without review
- D. Defer to owner

72. At close, the integrator delivers all commissioning test results in integrator-specific software format that the owner cannot open. The response is:

- A. Accept the format
- B. Require integrator provide results in universally readable format (PDF, Excel, etc.) per specifications
- C. Require separate software purchase
- D. Skip closeout

73. A punchlist item reads "Volume control on the touch panel does not function." Investigation reveals the panel was unplugged from the network. This is:

- A. Hardware failure
- B. Programming error that requires diagnosis of root cause and verification of network connectivity before item closure
- C. User error
- D. Cable issue

74. A commissioning report shows end-to-end latency of 220 ms for a video conferencing system. For modern conferencing applications, this is:

- A. Acceptable
- B. Within acceptable variation
- C. Below design target
- D. Exceeds typical 150 ms target and requires investigation of network, codec, and latency sources

75. An AV integrator submits a request to use a non-specified IP address range to match their firm's internal numbering convention. The designer's response is:

- A. Return requesting IP addressing conform to owner's network specifications and enterprise IT requirements
- B. Approve integrator convenience
- C. Accept with notation
- D. Defer to IT

76. A post-occupancy evaluation reveals that one conference room sees 80% of total facility usage, while another is rarely used. The insight suggests:

- A. Equal budget allocation was right
- B. The facility needs more identical rooms
- C. Future facility design should consider user patterns — room types and capabilities are more important than total room count
- D. Training was inadequate

77. An AV integrator completes installation and submits an invoice claiming substantial completion is achieved. The designer's review:

- A. Accept the integrator's statement
- B. Conduct formal substantial completion walk-through with punchlist generation before accepting substantial completion status
- C. Accept with retainage held
- D. Defer to GC

78. A field observation identifies that specified equipment is being installed with generic mounts instead of specified mounts. The response is:

- A. Accept generic mounts
- B. Approve with notation
- C. Require integrator to document the variance for owner review
- D. Require specification-conforming mounts per contract requirements

79. A designer identifies during commissioning that the integrator has used a CAT5e cable instead of specified CAT6A for a 75-meter HDBaseT run. The response is:

- A. Require replacement with specification-conforming CAT6A cable before verification acceptance
- B. Test CAT5e to see if it works
- C. Accept downgraded cable
- D. Adjust specifications

80. An integrator issues an RFI asking whether the specified 8-channel DSP can be replaced with two 4-channel DSPs. The evaluation is:

- A. Approve as equivalent
- B. Accept if integrator prefers
- C. Evaluate for impact on DSP programming, signal latency, cable management, and operational complexity — typically not equivalent
- D. Defer to integrator

81. A commissioning test shows that speakers in one zone produce feedback at specified gain. The root cause investigation should start with:

- A. Replace the microphones

B. Analyze PAG geometry, loudspeaker placement relative to microphones, and specific ringing frequencies for targeted EQ notching

C. Reduce gain

D. Replace the DSP

82. A designer reviews integrator-submitted training materials showing screenshots from pre-release firmware. The response is:

A. Accept screenshots

B. Verify current installed firmware version

C. Approve with notation

D. Require training materials match the actually-installed firmware version

83. An AV integrator submits a substitution request 5 days before bid due date. The specification requires substitution requests 14 days before bid. The response is:

A. Reject as out-of-time per specification requirements

B. Accept with late notation

C. Defer to GC

D. Approve the request

84. At substantial completion walk-through, the designer identifies cables that are unlabeled in 3 rack rows. The appropriate punchlist documentation is:

A. Note general labeling issue

B. Mark punchlist complete

C. Document specific rows requiring labeling completion with specification reference to RP-38-17

D. Skip the issue

85. An AV integrator submits a proposed workaround for a specification conflict. The designer's response priority is:

- A. Accept integrator workaround
- B. Determine whether the workaround addresses the underlying specification issue or creates new problems — often the proper fix is revising the specification itself through addendum
- C. Reject workaround
- D. Defer to owner

86. A commissioning observation identifies that the integrator has programmed touch panel buttons but has not configured the corresponding device commands. The response is:

- A. Accept partial programming
- B. Approve with notation
- C. Test during installation
- D. Document as incomplete work requiring integrator to complete scenario programming before substantial completion

87. A designer reviewing a post-occupancy survey finds users request additional features not in original scope. The appropriate response is:

- A. Treat as a separate change request requiring formal scope review, not an integration responsibility during punchlist phase
- B. Add to punchlist
- C. Require integrator to implement
- D. Defer to next project

88. An AV integrator submits a report showing that control system has been programmed and tested on a simulator, not the actual installed equipment. The response is:

- A. Accept simulator testing
- B. Require field testing on actual equipment
- C. Require field verification of all programming on the installed equipment before substantial completion
- D. Accept with notation

89. A designer receives a call from the owner requesting modification to touch panel labels 3 days before substantial completion. The appropriate response is:

- A. Accept as post-substantial-completion work through change order or service contract rather than ad-hoc pre-completion modification
- B. Require immediate change
- C. Add to punchlist
- D. Refuse the request

90. A commissioning report documents a user workflow test showing that "Start Meeting" requires 7 screen interactions instead of specified 1–2. The response is:

- A. Accept the 7-step workflow
- B. Require integrator testing
- C. Require integrator to simplify control programming to match specified user experience
- D. Defer to owner

91. An AV integrator submits final acceptance certificate proposing retainage release with 15 punchlist items still open. The designer's recommendation is:

- A. Release retainage

- B. Recommend retainage remain held until all punchlist items are resolved, verified, and closed
- C. Partial release
- D. Defer

92. A designer reviews the final verification report and finds measurements documented for all VIL items. The designer's verification is:

- A. Accept as-is
- B. Compare measurements against specified pass/fail criteria
- C. Sample only
- D. Formally verify each measurement against its specified pass/fail criterion and confirm all items pass or have addressed remediation

93. At project close, the integrator requests release of administrative passwords to both the integrator and owner. The designer's response is:

- A. Require passwords to be securely transferred exclusively to owner per specifications, with no integrator retention unless specifically contracted
- B. Accept integrator retention
- C. Approve dual access
- D. Defer to owner

94. A designer identifies during commissioning that the integrator has installed a non-specified amplifier. The integrator claims it was approved. The response is:

- A. Accept integrator claim
- B. Approve with notation
- C. Require documentation of the formal substitution approval; if no approval documented, require specification-conforming installation

D. Defer to owner

95. A post-occupancy evaluation survey reveals user satisfaction issues related to room responsiveness (long delay when starting a meeting). The root cause is likely:

A. Control system programming inefficiency and cascading device startup sequences that can be optimized through programming

B. Hardware limitations

C. Network latency

D. User error

96. An AV integrator submits a document request for "any additional coordination fees" beyond scope. The designer's response is:

A. Approve

B. Reject

C. Accept with owner review

D. Evaluate documented coordination work against original scope and change orders; only approved-through-change-order work is payable

97. A designer observes that the integrator's rack elevations show equipment arrangement identical to construction drawings. The observation is positive if:

A. The integrator followed the specifications exactly and thermal/weight considerations are properly accounted for

B. The rack is lighter than expected

C. The rack looks clean

D. Equipment types match

98. A commissioning walk-through documents that the integrator has not completed warranty documentation for 4 devices. The response is:

- A. Accept missing warranty
- B. Defer to manufacturer
- C. Require integrator complete warranty registration for all covered devices before final acceptance
- D. Accept with notation

99. An AV integrator submits a request for schedule extension claiming weather-related delays. The designer's evaluation:

- A. Approve automatically
- B. Evaluate the specific weather events against contractually-defined excusable delays and field-operation impact
- C. Reject unconditionally
- D. Defer to owner

100. A designer identifies during commissioning that user guides have been delivered in PDF only but specifications require both print and digital formats. The response is:

- A. Accept digital-only
- B. Approve with notation
- C. Skip the issue
- D. Require integrator provide both print and digital formats per specifications

101. An AV integrator submits an RFI asking about "cable routing in Area B." The RFI lacks specificity about which cable, exact location, or question. The designer's response is:

- A. Provide general guidance

B. Approve the question

C. Request that the integrator reformulate the RFI with specific cable identifiers, locations, and a clear question

D. Refer to drawings

102. A designer reviews commissioning final reports showing all verification items pass but notes that the integrator has not documented the calibration status of test equipment used. The response is:

A. Require documentation of test equipment calibration to verify measurement credibility per AVSPV standards

B. Accept the reports

C. Approve with notation

D. Skip this verification

103. An AV integrator requests owner permission to subcontract a portion of the work to a third party. The designer's involvement is:

A. Approve automatically

B. Review the subcontractor's qualifications and experience for the scope being subcontracted

C. Reject

D. Defer entirely

104. A commissioning report shows a projector lamp at 85% of rated life during verification. The observation is:

A. Requires replacement

B. Acceptable

C. Performance-adequate

D. Acceptable but warrants documentation in the record of the installed lamp age at commissioning

105. An AV integrator submits a document summary stating "all devices pass functional tests." The documentation lacks measured values. The response is:

- A. Accept the summary
- B. Approve with notation
- C. Require specific measured values for each test per AVSPV verification item list requirements
- D. Accept with integrator assurance

106. A designer reviewing verification results finds that an installation passed "acceptable feedback-free operation" but no PAG/NAG analysis or stability margin was measured. The response is:

- A. Require PAG/NAG analysis and stability margin measurement per verification specifications
- B. Accept subjective verification
- C. Approve with notation
- D. Defer to integrator

107. An AV integrator requests an extension for closeout documentation due to integrator staff unavailability. The appropriate response is:

- A. Approve unconditionally
- B. Evaluate against contract terms — integrator-caused delays typically are not grounds for extension
- C. Reject
- D. Defer

108. A commissioning walk-through identifies 5 instances where the integrator used different colored wall plates than specified. The appropriate categorization is:

- A. Defective work

- B. Incomplete work
- C. Non-conforming work requiring correction to specified color or formal substitution approval
- D. Cosmetic only

109. A designer identifies at substantial completion that specified training hours have been reduced by the integrator to 50% of requirement. The response is:

- A. Accept reduced training
- B. Approve with notation
- C. Defer to owner
- D. Require completion of full training hours per contract before substantial completion

110. A commissioning final report concludes with "System ready for occupancy." The designer's appropriate closing action is:

- A. Accept the statement
- B. Review the report against specified criteria, verify all VIL items pass, and issue formal acceptance only upon complete verification
- C. Defer to owner
- D. Accept with owner signature

# PRACTICE EXAM 5: ANSWER KEY AND EXPLANATIONS

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1. B — Return for resubmission with clean, unmodified manufacturer documentation. Submittals must be based on authoritative manufacturer documentation, not integrator-modified materials. Handwritten notes or modifications on factory documents compromise the specification review process and create ambiguity about what is actually being proposed.
2. D — Whether the 75-inch display still meets the DISCAS image height requirement for the specified viewing distance. DISCAS image height is the primary specification criterion driving display selection. Cost savings, manufacturer match, or local supply are secondary to whether the substitute meets the viewing-task requirement.
3. A — Identify specific AV-related schedule risks and propose coordination actions to recover schedule. AV designers participate in OAC meetings as active collaborators identifying trade-specific risks and solutions. Deferring, accepting delay, or requesting contract extensions miss the professional coordination opportunity.
4. C — Coordinated meeting with GC, fire protection contractor, and AV integrator to determine best relocation strategy. Multi-trade conflicts require coordinated resolution through the GC's authority. Unilateral decisions by any single trade create liability and scope ambiguity.
5. B — Return requesting reconciliation between cable schedule and schematic with notation of the 15-cable discrepancy. Document consistency is fundamental. Excess cables or integrator counts don't resolve specification ambiguity; formal reconciliation is required.
6. A — Evaluate the claim against documented lead time specifications, determining whether the delay is within integrator control. Extension evaluations must objectively assess whether the delay is excusable under contract terms. Approval without investigation or rejection without evaluation miss the professional evaluation standard.
7. D — Document as punchlist item requiring integrator remediation per the dimensioned elevation specification. Dimensioned elevations are contract-binding. 2-inch deviation exceeds typical tolerance and requires correction; accepting "close enough" undermines the specification contract.
8. C — Whether each scenario matches the specified user experience and use case requirements. Scenario review focuses on delivering specified user experience, not implementation details or integrator preferences. Matching to specified requirements is the core review criterion.

9. A — Compare the as-builts against the actual installed condition to verify drawing accuracy. As-builts document installed reality. Verification against actual installation is the integrity check; face-value acceptance or rejection without verification undermines documentation accuracy.
10. B — Direct the integrator to separate signal classes or add a pathway barrier per specifications. NEC separation requirements apply regardless of shielding. Acceptance without compliance creates EMI risk and specification violation; direct action is required.
11. C — Require tiered training matching audience — brief end-user sessions plus separate technical staff training. Training must match audience needs. Single 30-minute group sessions inadequately serve 50 diverse users; tiered approaches deliver appropriate depth for each audience.
12. D — Formal substitution request with specification-compliance verification submitted during bid period or via change request during construction. Substitutions follow formal procedures protecting specification integrity. Direct integrator decision, owner preference, or unilateral designer approval bypass contract processes.
13. A — Within the  $\pm 3$  dB tolerance band (72–78 dBA) — passing.  $75 \pm 3 = 72\text{--}78$  dBA range. 72 dBA is exactly at the lower tolerance boundary, meeting the acceptance criterion. ACU Standard specifies  $\pm 3$  dB; measurements within this band pass verification.
14. B — Submit an RFI to the AV designer for direction on the missing receptacle. Missing specified components require formal RFI documentation and coordinated response. Adapters, acceptance, or direct owner contact bypass proper coordination channels.
15. D — Excessive ambient light contribution to the screen surface. ISCR below target primarily results from ambient light adding to both image and darkness luminance. Lamp age, panel defects, or configuration issues are less common causes for a 12:1 gap below specified 50:1.
16. C — Return requiring network segmentation per specifications with separate AV-over-IP, AV control, and AV management VLANs. Specifications requiring segmentation cannot be bypassed for management simplicity. Network segmentation serves security, traffic isolation, and operational requirements that are non-negotiable.
17. A — Readiness of infrastructure, quality of installed equipment, and preparation for commissioning activities. Pre-commissioning visits verify readiness for verification activities. Post-occupancy issues or final test results are not the pre-commissioning focus.
18. B — Raise the concern that 3500 K is not optimal for daylight-mixed video conferencing and propose 4000–5000 K tunable white. AV designers provide technical input on color temperature matching use-case requirements. Accepting suboptimal specifications or deferring to other parties doesn't provide expert coordination value.

19. D — Formal change order with documented scope, pricing, and schedule adjustments signed by owner and GC. Scope changes require formal contract modification documentation. Verbal approvals, RFI responses, or observation entries don't legally modify contract scope.
20. C — Specifically identify incomplete network configuration as a commissioning prerequisite requiring completion before verification. Observations must identify specific deficiencies and remediation requirements. Praise, ignoring issues, or accepting partial work undermines the observation purpose.
21. A — Determine if the system is at a design-specification condition or below it, and distinguish between user error and system deficiency. Complaint investigation requires objective assessment of actual condition against specifications. Immediate rejection, face-value acceptance, or warranty deferral miss the diagnostic step.
22. C — Coordinated meeting identifies optimal placement considering both lighting and AV acoustic requirements. Design-phase conflicts require collaborative resolution matching multiple trade requirements. Trade precedence rules or aesthetic decisions without technical consideration miss proper coordination.
23. D — Document as defective work requiring integrator remediation before acceptance. Non-retention of configuration after power cycle is a defect. Replacement, acceptance, or firmware updates don't address the underlying defective performance requiring integrator remediation.
24. A — Return requesting 2-year warranty coverage per specification. Specifications are contract requirements. 1-year coverage doesn't meet the 2-year specified requirement; acceptance would compromise contract compliance.
25. C — Require completion of all 5 positions per specification before verification acceptance. Verification items must be completed per specifications. Partial testing or approval with notation undermine the verification scope; completing specified tests is fundamental.
26. B — Evaluate against DISCAS requirements, viewing distance calculations, and content delivery implications — typically not equivalent due to bezel, sync, and image coherence issues. Equivalence evaluation requires technical analysis of impacts on visual delivery, not face-value acceptance.
27. D — Accuracy of as-built drawings against the actual installed condition, including any field changes, substitutions, and additions. As-builts document installed reality. Graphic quality, formatting, or revision tables are secondary to documented accuracy of the installation.
28. A — Non-conforming work — programming does not match specified content. Touch panel labels are programmed content; incorrect labels indicate programming non-conformance. This is distinct from incomplete (not programmed), cosmetic (visual only), or hardware (defective device) categories.

29. C — Insufficient time for comprehensive commissioning — the schedule should allow 2 weeks minimum for verification activities including remediation time. 3 days is inadequate for proper AVSPV verification including issue identification and remediation. Professional commissioning requires time for thorough execution.
30. B — Whether the 5-step sequence delivers the specified user experience — often requiring reduction to 1-2 steps for ease of use. User experience is the scenario quality criterion. Step count alone indicates whether programming meets the "easy one-touch" specification requirement.
31. D — Submit an RFI and coordinate with electrical contractor and AV designer for resolution. Smaller conduit exceeding fill is a design-phase violation requiring coordinated resolution. Accepting or continuing with installation violates specifications.
32. A — Return requesting current version documentation before approval. Training materials must match the actually-installed system. Wrong version documentation leads to user confusion and ineffective training.
33. B — Document each item specifically with reference to specification, acceptance criteria, and expected resolution. Punchlist items require specific documentation supporting integrator remediation and designer verification. General lists or integrator-determined priority undermine the punchlist process.
34. C — Recommend retainage be withheld per contract until punchlist resolution and final acceptance criteria are met. Retainage secures final completion; releasing before punchlist resolution removes the contract enforcement mechanism.
35. D — Fails specification and requires remediation. Delta E > 5 exceeds the corporate specification target and requires remediation. Acceptance or tolerance interpretation compromises specification compliance.
36. B — Return requesting that heavy equipment be placed in the lower rack units for stability and thermal management. Heavy equipment at top creates tip-risk and thermal concentration. Lower placement is standard professional practice; acceptance without consideration compromises reliability.
37. A — Direct the integrator to complete cable labeling per RP-38-17 specifications before commissioning begins. Cable labeling is infrastructure; commissioning requires complete labels for verification documentation. Incomplete labeling during commissioning delays verification and creates service burden.
38. C — Submit a formal substitution request with performance comparison documentation for designer review. Discontinued products require formal substitution through documented review. Direct substitution, halting work, or scope acceptance without documentation bypass specification procedures.

39. D — Coordinate with structural engineer to identify alternate cluster location that maintains coverage uniformity requirements. Structural conflicts require coordinated resolution preserving AV requirements. Unilateral acceptance, insistence, or GC deferral miss coordination responsibility.
40. B — Request verification testing per AVSPV methodology including polar pattern confirmation in the installed environment. Verification requires measurement of installed system performance. Manufacturer specs alone don't confirm installation quality; AVSPV methodology specifies field-verification.
41. A — Return requesting that programming match the specified user experience and scenario logic, not programmer preference. Programming must match specified scenarios. Programmer preferences don't trump contract specifications; the designer must enforce specification compliance.
42. D — Document as punchlist item with specific description, requiring integrator diagnosis and remediation. Audio artifacts are investigation-required issues. Acceptance, user dismissal, or immediate correction directives without investigation miss proper punchlist procedures.
43. C — Require integrator to investigate and correct the 2 failing microphones before verification acceptance. Partial pass rate is unacceptable; 100% of specified items must pass. Acceptance of partial failures compromises verification integrity.
44. A — Evaluate against viewing angle and throw distance requirements — wall mounting typically changes projection geometry requiring complete re-engineering. Projector relocation impacts multiple geometric requirements. Equivalence evaluation requires technical engineering analysis, not convenience-based substitution.
45. B — Inconsistent lighting protocol configuration across spaces requiring coordinated programming across the room set. Inconsistent results indicate configuration, not hardware or cable issues. Coordinated programming across spaces is the remediation approach.
46. C — Evaluate the change order against original specified conditions, determining if the integrator's cost is reasonable and field conditions are documented. Change orders require evaluation of scope, cost, and field conditions. Automatic approval or rejection miss the evaluation standard.
47. A — Fails specification requiring investigation of latency sources and remediation. 85 ms exceeds the 20 ms live reinforcement target by 4x. Specification failure requires remediation; acceptance or tolerance interpretation violates design requirements.
48. D — Specifically require that training delivery be completed per contract before substantial completion. Training is a contractual deliverable. Observation documentation must require specific completion; acceptance or post-occupancy deferral violates contract terms.

49. C — Coordinated addendum resolving the conflict and specifying the current HDCP 2.3 requirement. Specification conflicts require addendum resolution. Division precedence rules or integrator decisions don't address the underlying technical discrepancy.
50. B — Request spreading the training with opportunity for staff to apply knowledge between sessions. Training effectiveness depends on knowledge consolidation between sessions. Consecutive-day scheduling defeats learning progression; sharing training for intervals supports adult learning principles.
51. D — Require completion of warranty registration for all covered equipment before final acceptance. Warranty registration is a contractual closeout deliverable. Partial registration or post-acceptance deferral violate specifications and compromise owner's warranty coverage.
52. A — Insufficient user experience testing and iteration during design development rather than a hardware issue. User struggles with interfaces trace to design-phase UX decisions. Hardware, training, or specification gaps are less likely root causes for UX difficulties.
53. C — Service scope matching the operational criticality — response times, SLAs, escalation paths, and covered equipment. Service contract evaluation focuses on substantive support terms matching operational needs. Cost, integrator preference, or duration are secondary considerations.
54. B — Require completion of all verification items before acceptance per AVSPV requirements. AVSPV requires complete verification; post-occupancy deferral violates the verification process. Acceptance of incomplete verification compromises acceptance certification.
55. D — Return requesting documented performance comparison against specified product's performance criteria. "Equivalent" requires documented comparison, not integrator claim. Face-value acceptance or notation without documentation undermines substitution review.
56. A — Require complete AVSPV verification scope per design specifications including all audio and video verification items. Verification scope must match specifications. Limited scope or SPL-only verification inadequately confirms system performance.
57. C — Evaluate integration implications — direct-purchased equipment may lack integrator warranty coverage and coordination. Direct purchase can compromise integrator responsibility, warranty coverage, and coordination. Evaluation of implications is the professional response.
58. B — Require secure transfer of all administrative credentials to the owner per specifications and closeout requirements. Credential transfer is a closeout requirement. Integrator retention or dual access compromise owner control and specifications.
59. D — IGMP snooping misconfiguration on the network infrastructure requiring network team coordination. Multicast flooding typically indicates IGMP snooping configuration, not hardware or cable issues. Network team coordination addresses the root cause.

60. A — Require native vector source files along with PDFs per specifications supporting future modification. Native source files support future modifications. PDFs alone don't permit editing; specification requires both formats.
61. C — Measurement calibration error or display in abnormal mode — requires investigation of measurement methodology and display configuration. Measurements exceeding manufacturer specifications suggest calibration or configuration issues. Investigation of methodology is the appropriate response.
62. B — Evaluate against contract terms — integrator-caused delays typically are not grounds for extension. Integrator staffing issues are typically within integrator control. Professional evaluation against contract terms is the appropriate response.
63. D — Direct removal of backed-out cables to maintain pathway capacity and prevent future service confusion. Backed-out cables consume pathway capacity and complicate future service. Removal is standard professional practice; permissive approaches create long-term issues.
64. A — Versions should match manufacturer-current releases at time of installation, with planned firmware maintenance schedule. Current-release firmware supports security and features. Integrator preference, "always latest," or "always stable" approaches miss the balance of currency and stability.
65. C — Require completion of acoustic treatment per specifications before acoustic verification. Acoustic verification requires complete treatment. Partial coverage produces invalid verification; specification completion is prerequisite to acoustic testing.
66. B — Review for documented additional work via change orders; undocumented work should not be paid without change order approval. Miscellaneous fees without documentation violate contract principles. Documented-only approval is the professional standard.
67. C — Document as lessons learned for internal knowledge base, sharing with team for continuous improvement. Lessons learned feed organizational improvement. Internal documentation and sharing support continuous improvement; ignoring or limited sharing miss the knowledge capture opportunity.
68. A — Reject as non-compliant and require specification-conforming heat-shrink printed labels. Specification conformance is required. Handwritten labels don't meet RP-38-17 requirements; acceptance or partial compliance violate specifications.
69. D — Exceeds sub-microsecond ST 2110 requirement and requires network infrastructure remediation. ST 2110 requires sub-microsecond PTP synchronization. 1.8 microseconds exceeds this requirement and requires network remediation; acceptance compromises ST 2110 operation.

70. B — Evaluate against specifications — bonus items specified as deliverables require scope change through formal change order. Specified deliverables require formal scope change for removal. Direct approval, rejection, or acceptance without documentation violate contract processes.
71. A — Approve the equivalent cable if the substitution was submitted during the allowed period and performance criteria are met. Substitution review follows specifications with documented process. Equivalent products meeting criteria and timely submittal processes support approval.
72. B — Require integrator provide results in universally readable format (PDF, Excel, etc.) per specifications. Documentation must be accessible to the owner. Proprietary formats without common access violate specification requirements.
73. B — Programming error that requires diagnosis of root cause and verification of network connectivity before item closure. Network connectivity is infrastructure for programmed devices; diagnosis and verification are required before closure.
74. D — Exceeds typical 150 ms target and requires investigation of network, codec, and latency sources. 220 ms exceeds typical video conferencing target. Investigation of sources is required; acceptance violates design requirements.
75. A — Return requesting IP addressing conform to owner's network specifications and enterprise IT requirements. IP addressing must match owner's IT environment. Integrator convenience doesn't trump enterprise IT requirements.
76. C — Future facility design should consider user patterns — room types and capabilities are more important than total room count. Usage patterns indicate design-program insights. Equal allocation, more identical rooms, or training gaps miss the fundamental programming lesson.
77. B — Conduct formal substantial completion walk-through with punchlist generation before accepting substantial completion status. Substantial completion requires formal process. Integrator statement alone doesn't achieve substantial completion status; walk-through and punchlist are prerequisite.
78. D — Require specification-conforming mounts per contract requirements. Mount specifications are contract requirements. Generic mounts don't meet specification; acceptance or variance-documentation approaches violate contract.
79. A — Require replacement with specification-conforming CAT6A cable before verification acceptance. Specification requires CAT6A. Testing CAT5e, acceptance, or specification adjustment violate the original specification requirement.
80. C — Evaluate for impact on DSP programming, signal latency, cable management, and operational complexity — typically not equivalent. DSP architecture changes create multiple operational impacts. Equivalence evaluation requires technical analysis, not convenience-based substitution.

81. B — Analyze PAG geometry, loudspeaker placement relative to microphones, and specific ringing frequencies for targeted EQ notching. Feedback is typically a geometric or frequency-specific issue. Professional diagnosis starts with PAG analysis and ringing-frequency identification before gain reduction or device replacement.
82. D — Require training materials match the actually-installed firmware version. Training effectiveness requires materials matching the installed system. Pre-release screenshots confuse users and compromise training quality.
83. A — Reject as out-of-time per specification requirements. Specification timelines protect bid process integrity. Late submittals cannot be honored without compromising fair bidding; acceptance violates procedural requirements.
84. C — Document specific rows requiring labeling completion with specification reference to RP-38-17. Punchlist documentation requires specificity and specification reference. General notation, marking complete, or skipping the issue undermine the punchlist process.
85. B — Determine whether the workaround addresses the underlying specification issue or creates new problems — often the proper fix is revising the specification itself through addendum. Workarounds must be evaluated against root causes. Acceptance or rejection without analysis miss the evaluation opportunity.
86. D — Document as incomplete work requiring integrator to complete scenario programming before substantial completion. Incomplete programming is incomplete work. Field testing during installation or acceptance with notation undermine the substantial completion standard.
87. A — Treat as a separate change request requiring formal scope review, not an integration responsibility during punchlist phase. Post-occupancy user requests are change requests, not punchlist items. Formal scope review is the appropriate response; punchlist addition or integrator implementation confuse the process.
88. C — Require field verification of all programming on the installed equipment before substantial completion. Simulator testing doesn't verify installation quality. Field verification on actual equipment is required for acceptance.
89. A — Accept as post-substantial-completion work through change order or service contract rather than ad-hoc pre-completion modification. Late scope additions should follow formal processes. Ad-hoc pre-completion modifications compromise project integrity; change orders or service contracts are appropriate.
90. C — Require integrator to simplify control programming to match specified user experience. Programming must match specified UX. 7-step workflow against specified 1-2 step requirement is specification violation requiring correction.

91. B — Recommend retainage remain held until all punchlist items are resolved, verified, and closed. Retainage protects punchlist resolution. Release with open items, partial release, or deferral compromise punchlist completion leverage.
92. D — Formally verify each measurement against its specified pass/fail criterion and confirm all items pass or have addressed remediation. Verification review requires formal comparison against specifications. Face-value acceptance, sampling, or owner deferral miss the review process.
93. A — Require passwords to be securely transferred exclusively to owner per specifications, with no integrator retention unless specifically contracted. Credentials are owner property. Integrator retention or dual access without specific contract terms compromise owner control.
94. C — Require documentation of the formal substitution approval; if no approval documented, require specification-conforming installation. Substitution claims require documentation. Acceptance without verification or variance approval violate specification process.
95. A — Control system programming inefficiency and cascading device startup sequences that can be optimized through programming. Response delays typically trace to programming sequences and startup cascades. Hardware limitations, network latency, or user error are less likely root causes.
96. D — Evaluate documented coordination work against original scope and change orders; only approved-through-change-order work is payable. Additional coordination fees require documentation. Undocumented work is not payable without formal approval.
97. A — The integrator followed the specifications exactly and thermal/weight considerations are properly accounted for. Rack elevations following specifications indicate specification compliance. Reviewing for proper thermal and weight considerations confirms professional rack design.
98. C — Require integrator complete warranty registration for all covered devices before final acceptance. Warranty registration is a closeout deliverable. Partial or missing registration violates specifications and compromises owner coverage.
99. B — Evaluate the specific weather events against contractually-defined excusable delays and field-operation impact. Weather claims require objective evaluation against contract terms. Automatic approval or rejection without evaluation miss the professional standard.
100. D — Require integrator provide both print and digital formats per specifications. Specification requires both formats. Digital-only, acceptance, or skipping the issue violate specification requirements.
101. C — Request that the integrator reformulate the RFI with specific cable identifiers, locations, and a clear question. Vague RFIs consume resources without resolving substantive questions. Specificity requirements protect review time and produce actionable responses.

102. A — Require documentation of test equipment calibration to verify measurement credibility per AVSPV standards. AVSPV requires calibrated measurement equipment. Documentation of calibration supports measurement credibility; undocumented calibration undermines verification reliability.
103. B — Review the subcontractor's qualifications and experience for the scope being subcontracted. Subcontractor review protects project quality. Automatic approval or rejection without qualification evaluation miss the professional review standard.
104. D — Acceptable but warrants documentation in the record of the installed lamp age at commissioning. Lamp at 85% of rated life is functional but aging; documentation supports future service planning. Replacement, acceptance without documentation, or subjective acceptability miss the record-keeping standard.
105. C — Require specific measured values for each test per AVSPV verification item list requirements. AVSPV requires measured values. Summary statements without measurements don't support verification; measured values are the core verification documentation.
106. A — Require PAG/NAG analysis and stability margin measurement per verification specifications. PAG/NAG with stability margin is a specified verification item. Subjective acceptability without measured criteria violates specification.
107. B — Evaluate against contract terms — integrator-caused delays typically are not grounds for extension. Integrator staff issues are typically within integrator control. Evaluation against contract terms determines whether the claim is excusable.
108. C — Non-conforming work requiring correction to specified color or formal substitution approval. Wall plate color is a specified cosmetic element. Non-conforming with specifications requires correction or formal substitution approval; acceptance or cosmetic-only categorization miss the specification violation.
109. D — Require completion of full training hours per contract before substantial completion. Training hours are contracted deliverables. Reduction without formal scope change violates contract; completion is required for substantial completion.
110. B — Review the report against specified criteria, verify all VIL items pass, and issue formal acceptance only upon complete verification. Final acceptance requires formal designer review. Integrator statements alone, owner-only signature, or acceptance without review miss the acceptance process.