



**CEDIA CERTIFIED  
INTEGRATED SYSTEMS TECHNICIAN (IST)  
EXAM BLUEPRINT**

		# of Items	% of Exam
<b>Project Processes</b>		<b>13</b>	<b>9%</b>
1.1	Project Management		
1.2	Project Documentation		
1.3	Stakeholder communication		
<b>Infrastructure</b>		<b>16</b>	<b>10 %</b>
2.1	Codes and Regulations		
2.2	Pre-Wire (First Fix) Phase		
2.3	Trim-Out (Second Fix) Phase		
2.4	Retrofit Considerations		
<b>Equipment Installation</b>		<b>25</b>	<b>17%</b>
3.1	Installation Practices		
3.2	Racks and Cabinets		
3.3	Cameras		
3.4	Speakers		
3.5	Displays		
3.6	Projectors		
3.7	Power Management Devices		
<b>Communication Systems</b>		<b>25</b>	<b>17%</b>
4.1	Telephony		
4.2	Data Network		
4.3	Terrestrial Antenna, Cable & Satellite and (RF) TV Systems		
<b>Integrated Systems</b>		<b>53</b>	<b>35%</b>
5.1	Audio		
5.2	Video		
5.3	Home Theater/Cinema/Media Room		
5.4	Control		
5.5	Security		
5.6	Lighting		
5.7	Other Sub-systems		
<b>System Verification &amp; Testing</b>		<b>18</b>	<b>12%</b>
6.1	Testing		
6.2	Verify System Performance		
6.3	Review Installed Systems		
<b>Total Items on Exam</b>		<b>150</b>	<b>100%</b>

<b>DOMAIN 1: PROJECT PROCESSES</b>		<b>Knowledge &amp; Skills</b>
Subdomain 1.1: Project Management	1	Knowledge of construction project management best practices
Subdomain 1.1: Project Management	2	Knowledge of best practices for ensuring all materials and equipment are available to complete the job, including identifying damaged materials and missing components from deliveries
Subdomain 1.1: Project Management	3	Skill to read and understand project timelines and milestones (e.g., Gantt chart)
Subdomain 1.2: Project Documentation	4	Skill to read and follow equipment connection schematics (e.g., block diagram)
Subdomain 1.2: Project Documentation	5	Skill to read and evaluate design/engineering drawings (e.g., block diagrams, line drawings, point-to-point schematics, rack elevation, mechanical drawings) to complete job/project
Subdomain 1.2: Project Documentation	6	Knowledge of how to interpret information in installation and instruction manuals (e.g., installing lenses in projectors, assembling mounting hardware)
Subdomain 1.2: Project Documentation	7	Skill to understand functional specifications at an operational level
Subdomain 1.2: Project Documentation	8	Knowledge of the requirements for completing a work order or change order
Subdomain 1.2: Project Documentation	9	Skill to mark-up project documentation to reflect as-built project (e.g., basic redline procedures, as-built diagrams)
Subdomain 1.3: Stakeholder Communication	10	Knowledge of things that should be communicated to project stakeholders (e.g., client, other trades) at various stages of the project
Subdomain 1.3: Stakeholder Communication	11	Skill to anticipate common problems (e.g., other trades obstructing device locations, onsite stakeholder conflicts, requirements for mounting heavy devices) that may arise during a project and determine how to handle those problems
Subdomain 1.3: Stakeholder Communication	12	Skill to identify and remediate issues related to physical space conflicts with other trades

<b>DOMAIN 2: INFRASTRUCTURE</b>		<b>Knowledge &amp; Skills</b>
Subdomain 2.1: Codes and Regulations	13	Knowledge of applicable minimum requirements for maintaining structural integrity when installing cabling in various materials
Subdomain 2.1: Codes and Regulations	14	Knowledge of CEDIA Certification Code of Conduct
Subdomain 2.2: Pre-Wire (First Fix) Phase	15	Knowledge of the types of most commonly used general purpose and communications cables and their applications (e.g., twin & earth, diameters, cores, solid/stranded, flex, heat resistant, armoured)
Subdomain 2.2: Pre-Wire (First Fix) Phase	16	Skill to identify color code standards for telephony, speakers (audio), data, and video and to troubleshoot related issues
Subdomain 2.2: Pre-Wire (First Fix) Phase	17	Knowledge of commonly used cable dressing techniques

Subdomain 2.2: Pre-Wire (First Fix) Phase	18	Skill to identify structural integrity for mounting flown/suspended/hanging devices (e.g., TV/projector lifts and screens)
Subdomain 2.3: Trim-Out (Second Fix) Phase	19	Skill to identify and use termination devices and tools for specific situations (e.g., fiber, outdoor)
Subdomain 2.3: Trim-Out (Second Fix) Phase	20	Skill to test/verify terminations and signal quality
Subdomain 2.3: Trim-Out (Second Fix) Phase	21	Skill to troubleshoot and correct continuity errors
Subdomain 2.3: Trim-Out (Second Fix) Phase	22	Knowledge of labeling standards for labeling cables and equipment (e.g., TIA-606-B)
Subdomain 2.4: Retrofit Considerations	23	Skill to install cable/wire in retrofit projects where there is risk of damage to structure or décor
Subdomain 2.4: Retrofit Considerations	24	Skill to identify the best methods for pulling cable/wire in a retrofit project (e.g., inspection camera), including the structural impacts of cutting and drilling

<b>DOMAIN 3: EQUIPMENT INSTALLATION</b>		<b>Knowledge &amp; Skills</b>
Subdomain 3.1: Installation Practices	25	Knowledge of risks associated with improper equipment ventilation
Subdomain 3.1: Installation Practices	26	Skill to identify potential ventilation issues for equipment locations
Subdomain 3.1: Installation Practices	27	Knowledge of equipment that uses alternating current or direct current
Subdomain 3.1: Installation Practices	28	Skill to calculate resistance and impedance of series or parallel circuits
Subdomain 3.1: Installation Practices	29	Skill to apply Ohms Law to the work being performed (including the associated calculations)
Subdomain 3.1: Installation Practices	30	Skill in proper cable and interconnect management
Subdomain 3.2: Racks and Cabinets	31	Skill in identifying various equipment rack accessories (e.g., screws, shelves, blanking and venting plates, lacing bars)
Subdomain 3.2: Racks and Cabinets	32	Skill in installing equipment properly in an equipment rack (i.e., in compliance with best practices)
Subdomain 3.2: Racks and Cabinets	33	Knowledge of equipment thermal management best practices, including rack and cabinet applications (e.g., active and passive ventilation)
Subdomain 3.2: Racks and Cabinets	34	Knowledge of equipment installation systems and practices for cabinet or joinery locations
Subdomain 3.2: Racks and Cabinets	35	Skill in identifying installation techniques for various rack types
Subdomain 3.2: Racks and Cabinets	36	Skill in mounting equipment/accessories in racks and cabinets

Subdomain 3.3: Cameras	37	Skill in installing various types of camera brackets, housings, and mounting devices
Subdomain 3.4: Speakers	38	Skill in installing various types of speaker brackets, housings, and mounting devices
Subdomain 3.5: Displays	39	Skill in installing various types of display brackets and mounting devices
Subdomain 3.6: Projectors	40	Knowledge of types of projector mounting brackets/lifts and their uses
Subdomain 3.6: Projectors	41	Skill in installing various types of projector mounting hardware and devices
Subdomain 3.7: Power Management Devices	42	Knowledge of basic purpose and types of battery backups
Subdomain 3.7: Power Management Devices	43	Knowledge of basic purpose and types of surge protective devices, and power conditioning equipment, and voltage regulation equipment
Subdomain 3.7: Power Management Devices	44	Knowledge of basic electrical power distribution methods and management (e.g., high voltage types, phases, transformers, breaker panels, receptacle or socket types, power supplies, power distribution, electrical cable testing)
Subdomain 3.7: Power Management Devices	45	Skill to install basic power management devices (e.g., surge suppressors, battery backups, and power conditioners)
Subdomain 3.7: Power Management Devices	46	Knowledge of common electrical problems (e.g., ground loops, overloaded circuits)

<b>DOMAIN 4: COMMUNICATION SYSTEMS</b>		<b>Knowledge &amp; Skills</b>
Subdomain 4.1: Telephony	47	Skill to identify access control devices and accessories (e.g., door stations, video intercom screen and touchpads, RFID, biometric, Bluetooth, and keypad modules)
Subdomain 4.1: Telephony	48	Knowledge of differences between common phone/communication devices in purpose and function
Subdomain 4.1: Telephony	49	Knowledge of qualification testing strategies for phone/communication systems (wired, wireless)
Subdomain 4.1: Telephony	50	Knowledge of common devices and topologies for physical and internet-based telephone services (e.g., VoIP)
Subdomain 4.2: Data Network	51	Knowledge of basic network device functionality
Subdomain 4.2: Data Network	52	Knowledge of basic data and networking (e.g., signal types, bandwidth, IP)
Subdomain 4.2: Data Network	53	Knowledge of the differences in common network devices in terms of purpose and function
Subdomain 4.2: Data Network	54	Knowledge of basic network security threats (e.g., phishing, default passwords)
Subdomain 4.2: Data Network	55	Knowledge of the seven layers of the OSI model at a fundamental level

Subdomain 4.2: Data Network	56	Knowledge of network monitoring features and benefits
Subdomain 4.2: Data Network	57	Knowledge of security issues related to remote network configuration (e.g., VPNs)
Subdomain 4.2: Data Network	58	Knowledge of common data and networking terminology (e.g., bits, bytes, bandwidth)
Subdomain 4.2: Data Network	59	Knowledge of MAC (OSI layer 2) and IP (OSI layer 3) addressing methodologies
Subdomain 4.2: Data Network	60	Knowledge of wired and wireless network topologies
Subdomain 4.2: Data Network	61	Knowledge of commonly used proprietary wireless communication protocols at a fundamental level (e.g., Bluetooth, Z-Wave, Zigbee)
Subdomain 4.2: Data Network	62	Skill in assigning IP addresses per design (e.g., static versus dynamic addressing)
Subdomain 4.2: Data Network	63	Skill in connecting and configuring wireless access points per design
Subdomain 4.2: Data Network	64	Skill in simple LAN configuration per design
Subdomain 4.2: Data Network	65	Skill in local software network testing methods (e.g., ping test, trace route, speed test)
Subdomain 4.3: Terrestrial Antenna, Cable & Satellite and (RF) TV Systems	66	Knowledge of antenna types and their typical uses
Subdomain 4.3: Terrestrial Antenna, Cable & Satellite and (RF) TV Systems	67	Skill to perform calculations related to installation of communication system (e.g., RF signal attenuation)
Subdomain 4.3: Terrestrial Antenna, Cable & Satellite and (RF) TV Systems	68	Knowledge of common broadcast or radio reception services, including terrestrial, satellite, cable, and radio frequencies (RF)
Subdomain 4.3: Terrestrial Antenna, Cable & Satellite and (RF) TV Systems	69	Knowledge of common devices and topologies for broadcast or radio reception services, including terrestrial, satellite, cable, and radio frequencies (RF)
Subdomain 4.3: Terrestrial Antenna, Cable & Satellite and (RF) TV Systems	70	Skill in testing devices for broadcast or radio reception services, including terrestrial, satellite, cable, and radio frequencies (RF)

<b>DOMAIN 5: INTEGRATED SYSTEMS</b>		<b>Knowledge &amp; Skills</b>
Subdomain 5.1: Audio	71	Knowledge of common audio terminology (e.g., frequency, wavelength, tweeter, crossover)
Subdomain 5.1: Audio	72	Knowledge of the differences between common audio devices in purpose and functionality
Subdomain 5.1: Audio	73	Knowledge of decibels (dB)
Subdomain 5.1: Audio	74	Skill in the installation of audio-related devices and equipment (e.g., AV receivers, pre-amplifiers, amplifiers, multi-room audio systems)
Subdomain 5.1: Audio	75	Knowledge of audio signals and how to convert them (e.g., coaxial to optical, analog to digital, digital to analog)

Subdomain 5.1: Audio	76	Knowledge of signal types in analog and digital audio and their relationship
Subdomain 5.1: Audio	77	Knowledge of different ways to distribute audio in room(s)
Subdomain 5.1: Audio	78	Knowledge of the attributes of audio devices that affect sound quality (e.g., digital sound processing)
Subdomain 5.2: Video	79	Knowledge of different methods of video signal distribution (e.g., matrix, video over IP)
Subdomain 5.2: Video	80	Knowledge of basic concepts of analog and digital video (e.g., signal types, levels, bandwidth, earthing and grounding)
Subdomain 5.2: Video	81	Knowledge of differences between common video devices (analog, digital, and optical) in purpose and function
Subdomain 5.2: Video	82	Knowledge of video signals, interconnects, protocols, and standards (analog and digital, HDCP, EDID)
Subdomain 5.2: Video	83	Skill to troubleshoot common issues with video signals
Subdomain 5.2: Video	84	Skill in the installation of video devices, interconnects, and accessories
Subdomain 5.3: Home Theater/Media Room	85	Knowledge of basic room layout, equipment configuration, and recommended practices (CEB 22 and CEB 23) (e.g., speaker locations, display size, projector throw distance, seating distances, viewing angles, immersive audio)
Subdomain 5.3: Home Theater/Media Room	86	Knowledge of system components and their functions
Subdomain 5.4: Control	87	Knowledge of common control systems terminology (e.g., discrete code, toggle command, macro, event maps)
Subdomain 5.4: Control	88	Knowledge of basic control systems (e.g., data rates, polarity, relays, contact closure, voltage, metadata, feedback)
Subdomain 5.4: Control	89	Knowledge of methods that control systems communicate with other devices (e.g., IP, contact closure, IR, RS232, RS485, RF, relays, wireless protocols)
Subdomain 5.4: Control	90	Knowledge of the differences between common control devices (e.g., relays, sensors)
Subdomain 5.4: Control	91	Knowledge of differences between common user interface devices (e.g., remote, keypad, touch screens, voice controllers, specialist controllers)
Subdomain 5.4: Control	92	Knowledge of basic installation and setup of control-related devices
Subdomain 5.4: Control	93	Knowledge that there are proprietary wiring pin outs and topologies for some manufacturer devices
Subdomain 5.4: Control	94	Skill to troubleshoot potentially dangerous device integrations (e.g., fireplace without a safety valve)
Subdomain 5.5: Lighting	95	Knowledge of the purpose and functionality of common lighting control components (e.g., keypad, switch, dimmer, sensor)

Subdomain 5.5: Lighting	96	Knowledge of common lighting user interfaces (e.g., keypad, switch, dimmer)
Subdomain 5.5: Lighting	97	Knowledge of common lighting topologies
Subdomain 5.5: Lighting	98	Skill to identify the correct lamp types for the fitting (e.g., incandescent, LED, fluorescent, HiD, cathode)
Subdomain 5.6: Security	99	Knowledge of the purpose of basic video monitoring devices (e.g., security cameras, video doorbells, baby monitors)
Subdomain 5.6: Security	100	Skill to connect sensing devices to a security panel or system
Subdomain 5.6: Security	101	Knowledge of the fundamentals of electrical circuits related to alarm systems (e.g., serial versus parallel wiring, end of line resistors, tamper circuits, anti-masking)
Subdomain 5.6: Security	102	Skill in basic installation of video monitoring devices (e.g., security cameras, video doorbells, baby monitors)
Subdomain 5.6: Security	103	Skill to install non-arming sensing devices (e.g., pressure, light, acceleration)
Subdomain 5.6: Security	104	Skill in configuration of video monitoring devices (e.g., security cameras, video doorbells, baby monitors)
Subdomain 5.7: Other Sub-Systems	105	Knowledge of methods and types of devices for energy monitoring and management (e.g., meter reading, hardware, and software)
Subdomain 5.7: Other Sub-Systems	106	Skill to connect non-arming sensing devices at a centralized panel or system
Subdomain 5.7: Other Sub-Systems	107	Knowledge of applications for using sensor feedback
Subdomain 5.7: Other Sub-Systems	108	Skill to install and configure motorized devices (e.g., shades, lifts, mounts)
Subdomain 5.7: Other Sub-Systems	109	Knowledge of common IoT/DIY devices and applications

<b>DOMAIN 6: SYSTEMS VERIFICATION &amp; TESTING</b>		<b>Knowledge &amp; Skills</b>
Subdomain 6.1: Testing	110	Knowledge of the proper use, storage, and maintenance of test equipment, including a network qualification tester
Subdomain 6.1: Testing	111	Skill to identify the test equipment, including a network qualification tester
Subdomain 6.1: Testing	112	Knowledge of the proper use, storage, and maintenance of signal-level meter/field strength meter
Subdomain 6.1: Testing	113	Knowledge of the proper use, storage, and maintenance of sound pressure level (SPL) meter and microphone
Subdomain 6.2: Verify System Performance	114	Skill to verify expected functionality of the as-installed system per the scope of work

Subdomain 6.2: Verify System Performance	115	Knowledge of common diagnostic procedures for troubleshooting system functionality
Subdomain 6.2: Verify System Performance	116	Skill to track signal path to verify system functionality
Subdomain 6.2: Verify System Performance	117	Skill in verifying operation of specific components of the system
Subdomain 6.2: Verify System Performance	118	Knowledge of common corrective actions for system functionality issues (e.g., connections, cables)
Subdomain 6.2: Verify System Performance	119	Knowledge of best practices for client orientation and training
Subdomain 6.3: Review Installed System	120	Skill in client communication and delivery of basic system orientation
Subdomain 6.3: Review Installed System	121	Knowledge of audio and video formats, resolution, data rate, and surround modes
Subdomain 6.3: Review Installed System	122	Knowledge of basic set-up procedures and terminology (e.g., audio such as speaker distances, levels; video such as brightness, contrast, color, tint)
Subdomain 6.3: Review Installed System	123	Skill to perform basic audio/video configuration (e.g., audio such as speaker distances, levels; video such as brightness, contrast, color, tint)