

Electronic Testing Soon Available for Certification Exams

ISA certification exams have typically been given four times a year at selected test sites, as well as at certain ISA conferences and events. Beginning in 2006, all of the certification exams administered by ISA will be available electronically through a network of global test centers in a proctored environment.

There will be no public exam dates scheduled in 2006; however, there will be much more flexibility of dates and locations for candidates within the global network.

After 31 December 2005, ISA certification exams will become closed book. No reference material will be allowed in the exam room or test center whether the exam is administered electronically or paper and pencil. This will help ISA ensure the validity and security of our certification exams as we offer them globally and to many more candidates.

Certification exams may still be scheduled for private sites/companies and will be administered as paper and pencil exams in the US if you have 4 or more people who want to test. No more private exams outside the US will be scheduled as we will rely on the upcoming electronic availability to accommodate candidates.

Networking: It's Not About Mingling or Working a Room

by Geoffrey Ronning

Many professionals network wrong. They race around the room handing out business cards and selling their products and services. That is unfortunate considering that most of us attend events with those who can help us achieve our professional goals. Therefore, it is important to be a skillful networker.

You need to use networking to build professional relationships that will lead to profitable interactions and valuable resources.

Many of us feel uncomfortable meeting others. We want to avoid interaction due to false fears, such as the fear of rejection, the fear of looking bad, and the fear of making a fool of ourselves. Those natural fears can be overcome with several strategies.

1. Outline your objectives for networking prior to attending your event. Consider whom would be the most valuable for you to make initial contact with and with whom you should invest your time. Seek out existing clients. Also, take this time to investigate new clients who are attending. Try to obtain a committee list through the event's host.

2. Use casual conversation to introduce yourself to potential contacts and ask about others who may be a good match for you. Also identify contacts you want to meet. For instance, if you have never met the director of a firm you are interested in working with, you can ask someone to introduce you. While making conversation, keep your ears open and listen for opportunities, which you can act on at this event or at future functions.
3. Approach your target when he is alone. Introduce yourself. Focus completely on him. Don't make a bad first impression. Engage him with questions and explore how you can bring value to the relationship. Offer to share a book, Web site, or article that might help your target solve a problem. Suggest a good vendor if your target needs one. Continue the relationship, and commit to following up the next business day.
4. Immediately provide the person with the information or resource that will help them. Do this via phone, mail, or e-mail. You are creating an image

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au·to·ma·tion (n) - The implementation of processes by automatic means. **2.** The theory, art, or technique of making a process more automatic. **3.** The investigation, design, development, and application for methods for rendering processes automatic, self-moving, or self-controlling. **4.** The conversion of a procedure, a process, or equipment to automatic operation.

Source: *The Automation, Systems, and Instrumentation Dictionary, 4th Edition* ISA - The Instrumentation, Systems, and Automation Society

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with your actions. Don't fail to deliver what you promised and create the wrong image. It's easier to create an initial positive image than trying to correct a negative image later.

- Seven to ten days later, follow up with the person to confirm receipt of the resource. Suggest other ways you may be able to assist him—offer other resources, your own products, or your services. Ask “Would it be beneficial for me to send you an information packet on our services as well?”
- Follow up in another seven to ten days, and ask if it may be beneficial to get together to see if your product or service is a good match for the person's needs. If he is open to meeting you, establish a working relationship. If he isn't interested in meeting you, ask if you may stay in touch and if he knows anyone else in need of your services or products.
- Stay in light contact with the person via phone, email, and networking events. As you grow your relationship, you will be creating potential business for yourself and a valuable contact that you can both access and refer to others.

These seven steps to successful networking should never be about distributing large quantities of your business cards, it should be about acquiring potential clients and contacts as well as building value.

Focus on the quality of your networking not the quantity. You will be using your time wisely and focusing your efforts in the most advantageous manner.

Author Information

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This article originally appeared in the ISA News & Views.

Congratulations to these Recently Certified CAPs

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CAP Job Analysis

The ISA CAP exam is designed to assess competence in the automation professional, and a passing score indicates that you have achieved a level of ability consistent with requirements for competence on the job. The job analysis study is an integral part of ensuring that the aspects of industrial automation covered on the exam reflect the tasks performed in the range of practice settings throughout the United States and Canada.

The following is an excerpt from the job analysis study that details the specific tasks and knowledge included in Domain 5 - Deployment. In the next issue of CAPacity, we'll detail Domain 6.

Task 1: Perform receipt verification of all field devices by comparing vendor records against design specifications in order to ensure that devices are as specified.

Knowledge of:

- Field devices (e.g., transmitters, final control valves, controllers, variable speed drives, servo motors)
- Design specifications

Skill in:

- Interpreting specifications and vendor documents
- Resolving differences

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Performance Domain V: Deployment

Ratings:					
Task	Importance	Criticality	Frequency	% of Items on Test	# of Items on Test
1	2.75	2.49	2.05	1.16%	2
2	2.86	2.74	2.14	1.24%	2
3	2.82	2.46	2.11	1.18%	2
4	3.34	3.01	2.51	1.41%	3
5	3.18	2.96	2.29	1.34%	3
6	2.99	2.74	2.16	1.26%	2
7	3.52	3.51	2.23	1.48%	3
8	3.02	2.83	1.99	1.25%	2
9	2.87	2.52	1.81	1.15%	2
10	3.11	2.89	2.01	1.28%	2
11	3.07	2.74	2.21	1.28%	2
12	2.97	2.58	2.06	1.21%	2
			Total	15.24%	27

Task 2: Perform physical inspection of installed equipment against construction drawings in order to ensure installation in accordance with design drawings and specifications.

Knowledge of:

1. Construction documentation
2. Installation practices (e.g., field devices, computer hardware, cabling)
3. Applicable codes and regulations

Skill in:

1. Interpreting construction drawings
2. Comparing physical implementation to drawings
3. Interpreting codes and regulations (e.g., NEC, building codes, OSHA)
4. Interpreting installation guidelines

Task 3: Install configuration and programs by loading them into the target devices in order to prepare for testing.

Knowledge of:

1. Control system (e.g., PLC, DCS, PC)
2. System administration

Skill in:

1. Installing software
2. Verifying software installation
3. Versioning techniques and revision control
4. Troubleshooting (i.e., resolving issues and retesting)

Task 4: Solve unforeseen problems identified during installation using troubleshooting skills in order to correct deficiencies.

Knowledge of:

1. Troubleshooting techniques
2. Problem-solving strategies
3. Critical thinking
4. Processes, equipment, configurations, and programming
5. Debugging techniques

Skill in:

1. Solving problems
2. Determining root causes
3. Ferreting out information
4. Communicating with facility personnel
5. Implementing problem solutions
6. Documenting problems and solutions

Task 5: Test configuration and programming in accordance with the design documents by executing the test plan in order to verify that the system operates as specified.

Knowledge of:

1. Programming and configuration
2. Test methodology (e.g., factory acceptance test, site acceptance test, unit-level testing, system-level testing)
3. Test plan for the system/equipment to be automated
4. System to be tested
5. Applicable regulatory requirements relative to testing

Skill in:

1. Executing test plans
2. Documenting test results
3. Troubleshooting (i.e., resolving issues and retesting)
4. Writing test plans

Task 6: Test communication systems and field devices in accordance with design specifications, in order to ensure proper operation.

Knowledge of:

1. Test methodology
2. Communication networks and protocols
3. Field devices and their performance requirements
4. Regulatory requirements relative to testing

Skill in:

1. Verifying network integrity and data flow integrity
2. Conducting field device tests
3. Comparing test results to design specifications
4. Documenting test results
5. Troubleshooting (i.e., resolving issues and retesting)
6. Writing test plans

Task 7: Test all safety elements and systems by executing test plans in order to ensure that safety functions operate as designed.

Knowledge of:

1. Applicable safety
2. Safety system design
3. Safety elements
4. Test methodology
5. Facility safety procedures
6. Regulatory requirements relative to testing

Skill in:

1. Executing test plans
2. Documenting test results
3. Testing safety systems
4. Troubleshooting (i.e., resolving issues and retesting)
5. Writing test plans

Task 8: Test all security features by executing test plans in order to ensure that security functions operate as designed.

Knowledge of:

1. Applicable security standards
2. Security system design
3. Test methodology
4. Vulnerability assessments
5. Regulatory requirements relative to testing

Skill in:

1. Executing test plans
2. Documenting test results
3. Testing security features
4. Troubleshooting (i.e., resolving issues and retesting)
5. Writing test plans

Task 9: Provide initial training for facility personnel in system operation and maintenance through classroom and hands-on training in order to ensure proper use of the system.

Knowledge of:

1. Instructional techniques
2. Automation systems
3. Networking and data communications
4. Automation maintenance techniques
5. Operating and maintenance procedures
6. System/equipment to be automated



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Skill in:

1. Communicating with trainees
2. Organizing instructional materials
3. Instructing

Task 10: Execute system-level tests in accordance with the test plan in order to ensure the entire system functions as designed.

Knowledge of:

1. Test methodology
2. Field devices
3. System/equipment to be automated
4. Networking and data communications
5. Safety systems
6. Security systems
7. Regulatory requirements relative to testing

Skill in:

1. Executing test plans
2. Documenting test results
3. Testing of entire systems
4. Communicating final results to facility personnel
5. Troubleshooting (i.e., resolving issues and retesting)
6. Writing test plans

Task 11: Troubleshoot problems identified during testing using a structured methodology in order to correct system deficiencies.

Knowledge of:

1. Troubleshooting techniques
2. Processes, equipment, configurations, and programming

Skill in:

1. Solving problems
2. Determining root causes
3. Communicating with facility personnel
4. Implementing problem solutions
5. Documenting test results

Task 12: Make necessary adjustments using applicable tools and techniques in order to demonstrate system performance and turn the automated system over to operations.

Knowledge of:

1. Loop tuning methods/control theory
2. Control system hardware
3. Computer system performance tuning
4. User requirements
5. System/equipment to be automated

Skill in:

1. Tuning control loops
2. Adjusting final control elements
3. Optimizing software performance
4. Communicating final system performance results