

## **PHASE 2: PREPARE**

### **BICSI ICT Technician Exam Blueprint**

BICSI’s credentialing programs are a gold standard in the information and communications technology (ICT) industry. The BICSI Technician credential validates that an installer has mastery of knowledge and skills to perform cable installations according to accepted best practices from the ICT cabling installation industry. Every three-to-five years the Registration and Credentials Supervision Committee (RCSC) oversees a job task analysis (JTA) of this credentialing program to ensure the program is current, relevant, and held to the highest standard. Based on this analysis, 10 core competencies were identified as essential to cable installation.

The content below outlines the competency areas covered on the BICSI Technician exam.

### **BICSI ICT TECHNICIAN EXAM CONTENT OUTLINE**

<b>AREA OF EXPERTISE</b>	<b>% OF EXAM</b>
<b>Conduct Field Planning, Implementation, and Design</b>	<b>20%</b>
<ul style="list-style-type: none"> <li>• Identify and distinguish properties and types of copper cable</li> <li>• Identify and distinguish properties and types of fiber</li> <li>• Perform site survey (pre-construction)</li> <li>• Interpret blueprints</li> <li>• Develop job plan (pre-construction)</li> <li>• Inventory job supplies and materials</li> <li>• Verify and comply with site safety plan</li> <li>• Perform labeling according to a labeling scheme</li> <li>• Perform site survey (onsite start-up)</li> <li>• Closeout a job</li> </ul>	
<b>Establish Pathways and Space</b>	<b>20%</b>
<ul style="list-style-type: none"> <li>• Build telecommunication spaces (e.g., TRs, ERs, EFs, TEs)</li> <li>• Install bonding infrastructure</li> <li>• Install cable support systems</li> <li>• Prepare telecommunication outlet at wall</li> <li>• Install cut-in rings (cavity box)</li> <li>• Prepare telecommunication outlet at floor</li> <li>• Prepare telecommunication outlet at utility column and/or modular furniture</li> <li>• Prepare telecommunication outlet at other locations (e.g., ceilings, hazardous, exterior)</li> <li>• Install sleeves, cores, and slots</li> <li>• Install poke throughs</li> <li>• Install cable trays, ladder racks and continuous cable support systems</li> <li>• Install non-continuous cable supports</li> <li>• Install raceways</li> <li>• Install cable supports systems under the floor</li> <li>• Install inner duct for fiber (ENT)</li> <li>• Install firestop and/or smoke barrier system</li> </ul>	

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## BICSI ICT TECHNICIAN EXAM CONTENT OUTLINE (CONTINUED)

AREA OF EXPERTISE	% OF EXAM
<b>Pull Copper and Fiber Cable</b>	<b>12%</b>
<ul style="list-style-type: none"><li>• Perform cable pulling setup</li><li>• Install pull string or rope in conduit</li><li>• Pull horizontal telecommunication outlet cable (conduit)</li><li>• Pull horizontal telecommunication outlet cable in open ceiling</li><li>• Pull backbone--riser from top down</li><li>• Pull backbone--riser from bottom up</li><li>• Pull backbone--horizontal backbone</li><li>• Pull cable--fiber specific</li><li>• Install air-blown or air-assist fiber</li></ul>	
<b>Terminate Copper and Fiber Cable</b>	<b>12%</b>
<ul style="list-style-type: none"><li>• Perform pre-termination functions</li><li>• Install correct connecting hardware for copper and fiber terminations</li><li>• Perform copper IDC termination (multi-pair)</li><li>• Perform copper IDC termination (four-pair)</li><li>• Perform coax termination</li><li>• Perform copper crimp termination--modular plugs</li><li>• Perform fiber termination</li></ul>	
<b>Perform Splicing</b>	<b>6%</b>
<ul style="list-style-type: none"><li>• Perform fiber splicing (e.g., fusion, mechanical)</li><li>• Perform copper splicing</li></ul>	
<b>Test Copper and Fiber Cable</b>	<b>7%</b>
<ul style="list-style-type: none"><li>• Perform copper cable testing</li><li>• Perform fiber cable test at Tier 1 certification (power meter)</li><li>• Perform Tier 2 fiber testing using OTDR (Optical Time Domain Reflectometer)</li></ul>	
<b>Perform Troubleshooting</b>	<b>7%</b>
<ul style="list-style-type: none"><li>• Perform copper cable troubleshooting</li><li>• Perform fiber cable basic troubleshooting (e.g., power meter or VFL)</li><li>• Perform fiber cable advanced troubleshooting using OTDR</li></ul>	
<b>Perform Retrofits</b>	<b>5%</b>
<ul style="list-style-type: none"><li>• Perform site survey (retrofit)</li><li>• Identify active circuits</li><li>• Perform cutover</li><li>• Remove abandoned cable</li></ul>	

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## BICSI ICT TECHNICIAN EXAM CONTENT OUTLINE (CONTINUED)

### AREA OF EXPERTISE

% OF EXAM

#### Apply Concepts of Integration and/or Convergence to Scope of Work

7%

- Apply concepts of physical network topologies and/or systems
- Apply concepts of network components
- Install security systems and alarm systems
- Install wireless systems
- Install Distributed Antenna System (DAS) systems
- Install structure cabling system (SCS) and/or outside plant (OSP) to support installation of passive optical network (PON)
- Provide structure cabling system (SCS) to support installation of other systems (e.g., paging, sound masking, clock, nurse call, BAS, life safety, elevator)

#### Codes and Standards

4%

- Adhere to local, state, and federal fire and/or building codes and/or standards

### Examination

The Technician exam is currently based on BICSI's *ITSIMM* and is a two-part exam – hands-on and written. To become a BICSI Technician, you must successfully pass both parts.

### Hands-On Examination

The hands-on performance exam consists of completing 14 tasks to industry standards, within a 20-minute per-task time limit. Proctors will give the pass/fail results after each task. If you fail to successfully complete one of the hands-on exam tasks, you will be given the opportunity to retest on that task on the same day at no additional cost, time permitting. If you fail the same task twice or fail a total of two hands-on tasks, the hands-on exam will need to be retaken at another date.

### Written Examination

The written exam can ONLY be taken after the hands-on exam has been completed successfully. The computer-based exam is two hours in length and consists of 100 questions drawn from BICSI's *ITSIMM*. The exam is multiple choice, with questions based on both knowledge and application.

### Exam Specifics

Number of Questions .....100

Allotted Examination Time .....2 hours

### Suggested Study:

- Attend IN101: BICSI Installer 1 Training
- Attend IN225: BICSI Installer 2, Copper Training
- Attend IN250: BICSI Installer 2, Optical Fiber Training
- Attend TE350: BICSI Technician Training
- Complete at least 50-100 hours of independent study of BICSI's *ITSIMM*
- Training in Safety and Personal Protective Equipment (PPE)
- Training in firestopping
- Training in optical fiber splicing and termination
- Training in copper splicing and termination

OR

- Complete at least 100 hours of independent study of BICSI's *ITSIMM*
- Training in Safety and Personal Protective Equipment (PPE)
- Training in firestopping
- Training in optical fiber splicing and termination
- Training in copper splicing and termination