



ISO 9001:2008 Certified

# CANDIDATE INFORMATION BULLETIN

## S.T.A.R. HVACR Mastery Examination

### SECTION ONE

#### ABOUT NITC

National Inspection Testing Certification (NITC) is a third-party provider of certification services to the Piping Industry. NITC tests and certifies personnel in the Plumbing, Piping, HVACR and Related Piping Industries. NITC is ISO 9001:2008 certified and offers a large number of personnel certifications that include but are not limited to Journey and Mastery Levels, Medical Gas, IAPMO Voluntary Plumbing and Mechanical Inspector, and assorted City, County and State Government requirements. NITC also specializes in Test Development and Test Administration.

NITC is non-discriminatory in accepting applications and issuing certifications to candidates without regard to membership in any trade, association, union, etc. NITC is in compliance with Federal and State ADA regulations.

**Important note to examination candidates:**

*The information contained in each section of this document is important and is provided to help ensure your success. Please be sure to read all of it very carefully.*

#### ABOUT OUR S.T.A.R. HVACR MASTERY PERSONNEL CERTIFICATION PROGRAM

For many years the certification of HVACR personnel has been a voluntary effort except where required by an employer or by the local jurisdiction. However, new government and industry requirements continue to emerge asking that HVACR systems personnel document their qualifications through written test and/or practical testing. NITC is the clear leader in providing HVACR systems personnel certification which meets the needs of the industry, while holding to the highest standards of modern test practice.

The S.T.A.R. HVACR Mastery certification program is nationally recognized and is the result of years of effort by experts from the HVACR industry. The subject matter experts who participate in the development of these certifications represent many thousands of hours of experience in their field. The goal of these volunteers is improving the safety of those who come into contact with the industry as worker, or as a consumer.

## ABOUT THE EXAMINATION DEVELOPMENT

The first step in the development of an objective test is to identify the knowledge necessary for the certification holder. This knowledge was identified by a team of industry experts assembled by The Technology Transfer Center at Ferris State University. The DACUM process of Job and Task Analysis was employed to develop the examination blueprint which became the basis for the content of this examination. The passing scores were also determined by these subject matter experts using psychometrically accepted standard-setting methodology.

### Important Note to all Industry Stakeholders:

*If you are a stakeholder who employs individuals in any arena in which NITC provides certifications, NITC would like to ask you to complete a very brief survey. This can allow you to anonymously share your industry knowledge, concerns, and/or kudos. Please [click here](#) to choose your area of interest.*

## SECTION TWO

### SCOPE OF WORK: S.T.A.R HVACR MASTERY

A S.T.A.R. HVACR Mastery certification candidate is a qualified individual who can demonstrate mastery of the trade and will be skilled and experienced in operations, planning, blueprint reading, safety, and the practical installation, repair, and service of HVACR systems.

Installation, repair, and service of HVACR systems includes the design, construction, installation, alteration(retrofit), repair, service and maintenance of all boilers, HVAC air handling systems, ductwork systems, refrigeration piping systems, process piping heating and cooling systems in residential, commercial and industrial settings.

A qualified Master Mechanic may perform these tasks alone, or through the supervision of other individuals.

It is expected that the S.T.A.R. HVACR Mastery examination candidate is a technician who has completed a UA training program or equivalent, and/or has five years of experience in the industry.

### EXAMINATION QUALIFICATION REQUIREMENTS

Candidates must have a minimum of five (5) years experience in installation and service of HVACR systems. Completion of a recognized apprenticeship program or proof of five (5) years experience from employers is required.

### ABOUT THE EXAMINATION

The S.T.A.R. HVACR Mastery examination is a closed book exam consisting of one hundred ninety nine (199) multiple-choice questions. Examinees must answer at least 158 questions (79.4%) correctly to pass this examination. The subject matter covered in the examination includes Mechanical Principles, Electrical Principles, Controls, Air Conditioning and Refrigeration, Heating, Steam Systems, Ventilation, Piping, Lifting Equipment, Safety and Environmental, Applied Mathematics and Blueprint Reading.

The S.T.A.R. HVACR Mastery examination is comprehensive. It is designed to test the knowledge of the experienced technician. It is not realistic to expect that inexperienced technicians will be able to pass this examination based solely on the information contained in UA textbooks. It is recognized that even the best technician does not work in all areas of the service industry. Further, some knowledge can be forgotten through lack of use. As such, it is recommended that the candidate study a number of UA textbooks in preparing for the S.T.A.R. exam. For those who do not have access to UA training materials, HVACR manuals that are available through industry sources can serve as references for this exam. Please refer to the list of subject matters covered when identifying appropriate reference materials, manuals, or training guides.

A content outline is provided below as an aid in preparing for the exam.

**Examination Name:** S.T.A.R. HVACR Mastery Certification Examination  
**Description:** Closed book exam consisting of 199 multiple-choice questions  
**Passing grade:** 79.4% (158 correct)  
**Total time allowed:** four (4) hours

Percent of Exam	Domain Area
10%	Mechanical Principles
16%	Electrical Principles
13%	Controls
21%	Air Conditioning And Refrigeration
11%	Heating
2%	Steam System
5%	Ventilation
6%	Piping
2%	Lifting Equipment
4%	Safety And Environmental
8%	Applied Math And Blueprint Reading
2%	Customer Service

An NITC-approved proctor administers the multiple-choice examination. Candidates are notified of a pass or fail result in writing by NITC, the training agency, or by the association that requested the examination.

Candidates failing to achieve a passing score will be eligible for re-examination as soon as the next examination is scheduled. Candidates may re-take their examination at the NITC offices or at an ACT testing centers. Re-examination fees are listed in [Section Three](#) of this bulletin.

### RE-CERTIFICATION OF CERTIFICATION

This certification is valid for five (5) years from issuance. Re-certification of this certification can be accomplished by successfully passing a fifty (50) question, non-proctored, multiple choice “open book” examination within thirty days of the expiration date of certification. Candidates must answer thirty-seven of the questions (74%) correctly on the exam to achieve a passing grade.

The re-certification test can be taken by either of two methods.

- (1) For a fee of \$66.50 take a computer-based re-certification exam online at [www.testrac.com/nitc](http://www.testrac.com/nitc). A Testrac ID and PIN is required. Those can easily be obtained by going to [www.testrac.com/nitc](http://www.testrac.com/nitc) and selecting STEP 2, or by contacting the NITC office. Four (4) hours are allowed for the exam and results will be provided immediately at the completion of the exam.
- (2) For a fee of \$77.00 take a paper-based version of the re-certification exam. This exam may be mailed to a certified individual, or sent to a training agency, employer, or association to be administered. After the completed exam is returned to NITC it may take up to 30 days to receive the pass/fail letter by mail. Contact NITC after 30 days have passed if the pass/fail letter has not arrived.

**Important note about certification re-certification:**

*This certification is valid for five (5) years from issuance*

*Certification holders are responsible for keeping their certification current. NITC must be notified of any change in address. Changes may be made online, by telephone, or by mail.*

*Re-certification candidates are encouraged sign up for the easy to use computer-based re-certification exam.*

Re-certification candidates are encouraged to use the computer-based system.

Certified individuals, who have not renewed their certification within thirty days after the expiration date, must take the proctored one hundred ninety nine question multiple-choice examination.

## SECTION THREE

### APPLICATION PROCEDURES

Candidates must complete an application in advance and return it to the NITC office. In addition to information that verifies eligibility, the application contains a code of conduct that certified persons must abide by and the regulations for suspension or withdrawal of the certification. Applications can be obtained from the NITC office or from the NITC website at [www.nationalitc.com](http://www.nationalitc.com). Walk-in candidates will be accepted at the discretion of the proctor. A walk-in affidavit and an examination application must be completed. All fees must be paid before results are released.

### TABLE OF FEES FOR ALL NITC STAR MASTERY EXAMINATIONS

All fees due must be submitted with a completed application.

#### EXAMINATION FEES

Multiple-choice exam with a proctor (Processing may be applied)	\$128. <sup>00</sup>
Computer-based multiple-choice exam with a proctor (Processing may be applied)	\$128. <sup>00</sup>
Computer-based multiple-choice exam at ACT center	\$128. <sup>00</sup>
RETEST multiple-choice exam (Processing may be applied)	\$128. <sup>00</sup>

RETEST computer-based multiple-choice exam with a proctor (Processing may be applied)	\$128. <sup>00</sup>
RETEST computer-based multiple-choice exam at ACT center	\$128. <sup>00</sup>
ACT test center cancellations and rescheduling fee (if cancellation occurs with less than 48 hours notice)	\$ 70. <sup>00</sup>

### RE-CERTIFICATION FEES

Re-certification by mail (pencil paper test)	\$ 77. <sup>00</sup>
Re-certification Test online at TestTrac.com	\$ 66. <sup>50</sup>

### OTHER FEES

Processing fee for group examinations involving less than ten (10) candidates:	for paper pencil exams	\$250. <sup>00</sup>
	for computer-based exams	\$150. <sup>00</sup>
For duplicate of the wall certificate		\$ 15. <sup>00</sup>
For duplicate of the wallet-sized photo ID card (N/A)		\$ 15. <sup>00</sup>

### EXAMINATION SCHEDULING FOR GROUPS

Examinations are scheduled and administered at specific times, dates and locations as required by clients. To request an exam for a group of ten (10) or more candidates submit an examination request form to NITC at least two (2) weeks in advance along with the completed applications

For groups of less than ten (10) candidates a processing fee will be added. The fee is \$250 for paper pencil exams, and \$150.00 for computer-based exams. All fees must be paid prior to the examination, fees are non-refundable. (See NITC No-show, Cancellation, Refund Policy.) It is the responsibility of the instructor or the requesting entity to notify each applicant of the scheduled examination.

Please contact NITC for more information about examination scheduling.

### ACT COMPUTER-BASED TESTING INFORMATION

Computer-based testing at ACT centers is available for individuals unable make the scheduled examination with the training agency. There are more than 200 ACT centers throughout the United States where the examination can be taken a time and place that is convenient for the candidate. The content of the computer-based multiple-choice test is identical to that of the written multiple-choice examination.

Go to [www.nationalitc.com](http://www.nationalitc.com) or [www.act.org/actcenters/locate](http://www.act.org/actcenters/locate) to locate an ACT TESTING center. Once the application has been submitted, contact NITC to provide payment information. For exams given at ACT centers an email address must be provided. **Application will not be processed until payment has been received.**

Login information for scheduling the exam date and time will be provided via an email from ACT Test Registration.

#### Important note about electronic scoring of NITC examinations:

*Since the pencil paper examinations are electronically scored after being returned to the offices of NITC it is important to record all on the scannable answer sheet provided at the testing site. Answers marked in any test booklet will NOT be counted toward a candidate's score.*



For any test scheduled at an ACT center, cancellation and rescheduling must be made at least 48 hours prior to the assigned time or date or a rescheduling fee will be assessed.

## **EXAMINATION SCORES**

For computer-based tests, results are provided to the examinee at the completion of the exam. For NITC-proctored paper-and-pencil testing, examination results will be provided to the training entity or instructor originally arranging the test event within 30 days.

## **EXAMINATION SITE INFORMATION**

Candidates will be required to sign a test site roster and show photo identification to the proctor at the test site on the day of the exam administration. Acceptable forms of photo identification are a passport, a government-issued driver's license or state ID, or a work identification card with photo. Candidates without appropriate identification documents will NOT be admitted to take the certification examination.

It is suggested that exam candidates bring a hand held pencil sharpener, an eraser, and a silent, battery-operated, non-printing, non-programmable calculator. (A non-programmable calculator does NOT have a full alphabetical keyboard). All other electronic devices (such as cell phones & palm pilots) are prohibited. ***NOTE: No PDAs, cellular telephones, wrist watches, or any other types of devices that record data are allowed to be used during the examination.***

*Note: Materials will not be available at the testing site. No reference books, standards, code books, handbooks, computers, notebooks, audio/visual devices, recorders, illustrated books, notes, drawings or papers of any kind will be allowed in the testing facility.*

## **SPECIAL REQUESTS FOR TAKING THE EXAMINATION**

Requests for special/emergency examinations will be accommodated by NITC if possible. Candidates that have a disability that restricts their ability to take an examination under the standard conditions may request special testing arrangements. Such requests must accompany the application, and must be received by the normal application closing date. The request must indicate the nature of the disability and the special accommodations needed. Verification of both the disability and the need for special accommodations by a licensed medical professional is required.

Additional information on special accommodations can be found in Section XVI of the NITC [Rules and Procedures Manual](#), available for download from our web site at [www.nationalitc.com](http://www.nationalitc.com).

## **NITC NO-SHOW, CANCELLATION and REFUND POLICY**

**CREDITS:** NITC will issue a credit to no shows, cancellations, etc. The credit, redeemable for six months, will be issued to the group or individual for the next available examination. It is the responsibility of the group or individual to keep track of their credit and its expiration date in six months.

*Example: A group requested 30 examinations and only 27 candidates showed up. A credit for 3 candidates will be given to the group for the next examination within a six month period.*

REFUNDS: Requests for refunds must be received in writing. Refunds will be given only upon approval from the Executive Vice President. Partial refunds will be \$55.00 on the one-hundred question examinations, and 50% of the fee for all other examinations. Full refunds will only be given as a result of uncontrollable events such as severe weather, airline flight cancellations, etc.

Candidates withdrawing or canceling after the deadline or not sitting for the examination will forfeit all application fees and will NOT receive a refund.

### **QUESTION COMMENT/CHALLENGE PROCEDURE**

Challenge forms provided in the proctor's examination package may be used for both comments and question challenges. At the conclusion of the examination, a candidate may comment on the site, the process, or on any question. Comments and suggestions are always welcome. To challenge a question or questions, a candidate must request the question challenge form from the proctor; complete the form providing as many details as possible. The completed form must be turned in to the proctor before leaving the room. An examinee may file a question challenge at a later time so long as it is in writing, identifies the question being challenged, contains a separate and complete statement of each ground upon which the challenge is based, and is received by NITC not later than 30 days from the receipt of examination score. Additional details on the process are provided in NITC's [Rules and Procedures document Manual](#), available at NITC's web site.

### **INFORMATION RELEASE POLICY**

For computer-based tests, results are provided to the examinee at the completion of the exam. For NITC-proctored paper-and-pencil testing, examination results will be provided to the examinee, training entity or to the instructor who originally arranged the test event within 30 days.

Except as outlined in this section, NITC will NOT release any information regarding a candidate's examination score or application to other entities, including employers and regulatory agencies.

The Name and State of residence of those persons holding a current certification will be posted on the NITC website. This service allows for verification of the status of persons involved in the installation, inspection and/or maintenance of medical gas and vacuum systems. A candidate's personal information will not be included on the NITC website.

### **APPEALS PROCEDURE**

Candidates may appeal the score of an examination. Appeals shall be filed in writing to the NITC office via U.S. Mail, facsimile, or E-mail no later than thirty (30) days from the date candidate receives the score. Appellants will be notified in writing of the decision by the certification committee. The complete NITC appeals procedure can be found in the NITC [Rules and Procedures Document](#).

### **ISSUANCE OF WALL CERTIFICATES AND CERTIFICATION CARDS**

Upon successful completion of this certification examination, a certificate and a congratulations letter will be issued. This certification is valid for five (5) years from issuance. Certification holders are responsible for keeping their certification current. **NOTE: IN SOME CASES A WALL CERTIFICATE**

**AND/OR WALLET CARD WILL BE ISSUED BY A CITY, COUNTY, STATE, INDUSTRY ASSOCIATION, OR UNION.**

## **HOW TO OBTAIN THE NITC RULES AND PROCEDURES DOCUMENT**

The Medical Gas Installer Certification is governed by the [Rules and Procedures document](#). This document goes into greater detail on a number of the topics covered in this examination information bulletin. Topics covered include:

- Guidelines for Use of Certification Mark
- Re-issuance of Lost Certification Card
- Issuance of Certification Cards and Wall Certificates
- Proctor Information
- Challenge of Questions and Appeals Procedure
- Conflict of Interest and Confidentiality Statements
- Notification to Certified Personnel and Stakeholders of Updated
- Correction of Material / Technical Error in Examinations
- NITC ADA Policy
- NITC Certification Scheme Committee

Copies of NITC's [Rules and Procedures document](#) are available on the NITC website at [www.nationalitc.com](http://www.nationalitc.com) and also upon request from NITC Headquarters.