
MECHANICAL WORK EXAMINATION

# of Questions	Minimum Passing Score	Time Allowed
100	70 (70%)	240 Minutes

CONTENT OUTLINE

Content Area	# Items Test
Boilers and Hydronics	6
Gas Systems	10
Cleanouts	3
Plumbing Fixtures and Equipment	5
Water Heaters	2
Piping, valves, controls	5
Sheet Metal and Ducts	6
Water Supply	5
Hangers and Supports	4
Drain, Waste, and Vent	5
Backflow	2
Traps and Interceptors	4
Developed length	3
Isometric Analysis	8
Safety	4
Joints and Connections	3
General Plumbing Regulations	3
Fire Sprinklers	4
Refrigerants and Refrigeration	4
Heating and Cooling Principles	4
Load Calculations	5
Testing, Adjusting and Balancing	1
HVAC Equipment	4

EXAMINATION STUDY MATERIALS

The reference materials listed below were used to prepare the questions for this examination. The examination may also contain questions based on trade knowledge or general industry practices. Except for Code books, you can base your answers on later editions of references as they become available. For Code questions, the examinations will be based only on the edition of the Code book that is listed.

This examination is OPEN book. The following references are allowed in the test room.

Code of Federal Regulations - 29 CFR Part 1926 (OSHA), with latest available amendments, U.S. Government Printing Office, (866) 512-1800 or

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926>

OR

Code of Federal Regulations - 29 CFR Part 1926 Selections by PSI, with latest available amendments, www.psionlinestore.com, (866) 589-3088

Modern Refrigeration and Air Conditioning, Althouse, Turnquist, Bracciano, 20th edition, Goodheart-Willcox, www.g-w.com

International Fuel Gas Code, 2018, International Code Council, (800) 786-4452, www.iccsafe.org

HVAC Duct Construction Standards, Metal and Flexible, 2005, 3rd edition, Sheet Metal and Air Conditioning Contractors' National Association, Inc., (703) 803-2980, www.smacna.org

Manual N - Load Calculation for Small Commercial Buildings, Fifth Edition, 2008, Air Conditioning Contractors of America (ACCA), 2800 Shirlington Road, Suite 300, Arlington, VA 22206, (703) 575-4477, www.acca.org

International Mechanical Code, 2018, International Code Council, 5203 Leesburg Pike, Suite 600 Falls Church, VA 22041, 7039314533, www.intlcode.org/

International Plumbing Code, 2018, International Code Council, 5203 Leesburg Pike, Suite 600 Falls Church, VA 22041, 7039314533, www.intlcode.org/

NFPA 58: Liquefied Petroleum Gas Code 2011 Edition, 2001, National Fire Protection Association, 1 Batterymarch Park, Quincy, Massachusetts 02169, (800) 344-3555, www.nfpa.org

NFPA 13: Installation of Sprinkler Systems, 2002, National Fire Protection Association, 1 Batterymarch Park, Quincy, Massachusetts 02169, (800) 344-3555, www.nfpa.org

ACCA Ductulator, Air Conditioning Contractors of America, 2800 Shirlington Road, Suite 300. Arlington, VA 22206, (703) 575-4477, www.acca.org

Manual D, 2016 4th Ed, Air Conditioning Contractors of America, 2800 Shirlington Road, Suite 300. Arlington, VA 22206, (703) 575-4477, www.acca.org

Pipefitters Handbook - 3rd Edition, 1967, Forrest R. Lindsey, Library of Congress #59-14725, Industrial Press, 200 Madison Avenue, NEW York, NY 10016, www.industrialpress.com

Candidates are responsible for bringing their own references to the examination center. Reference materials may be highlighted, underlined, **annotated**, and/or indexed prior to the examination session. However, references may not be written in during the examination session. Any candidate caught writing in the references during the examination will have the references confiscated and will be reported to the department. Furthermore, candidates are not permitted to bring in any additional papers (loose or attached) with their approved references. Any additional materials will be removed from the references and confiscated. References may be tabbed/indexed with permanent tabs only. Temporary tabs, such as Post-It notes, are not allowed and must be removed from the reference before the exam will begin.