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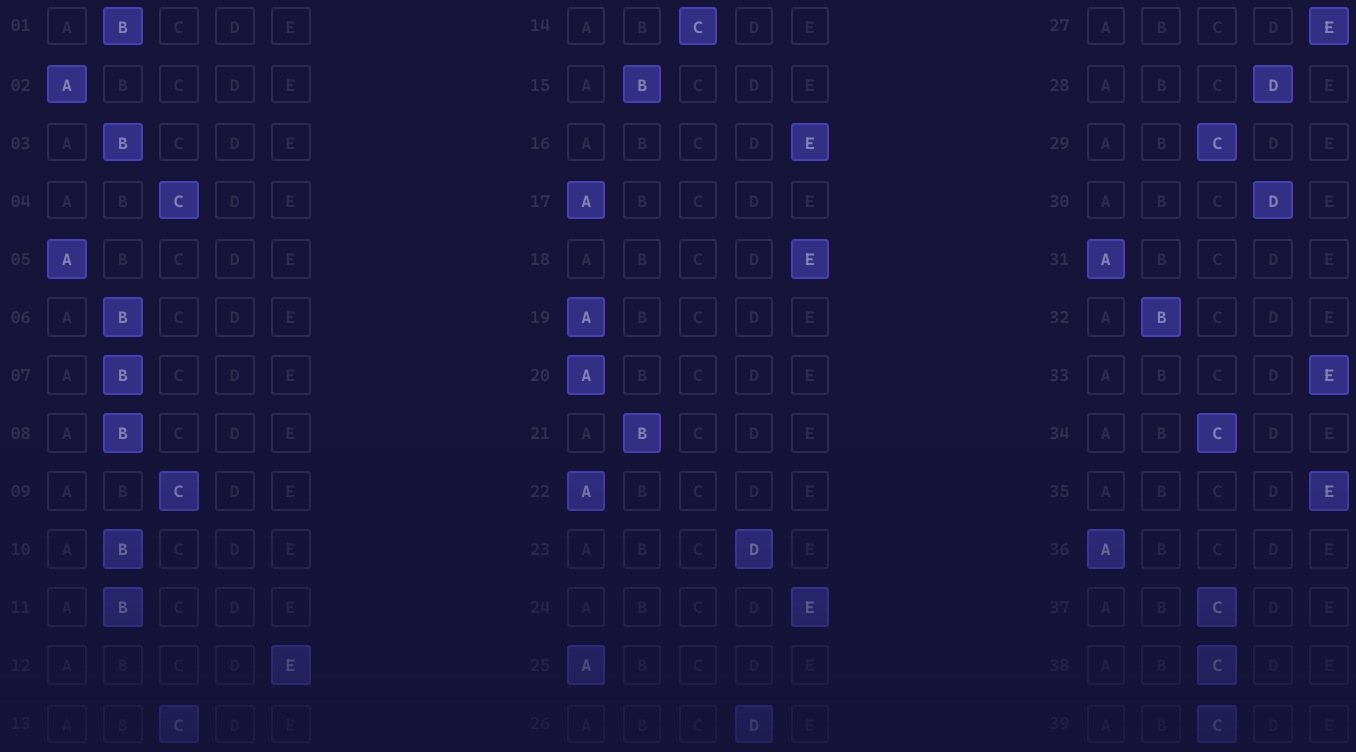

PRACTICE QUESTIONS

National Inspection Testing and Certification Corporation

MI24A

Medical Gas Installer 2024 A

EDITION	QUESTIONS	FORMAT
Demo	9	Limited Edition PDF

WEB www.mometrix.net

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Before you begin

What this is

9 practice questions for National Inspection Testing and Certification Corporation `MI24A`, each with its answer key and an explanation. Answer a question before you read its key — the explanation is worth more once you have committed.

If something looks wrong

Send us three things and we will check it:

- the exam code, `MI24A`
- the question number
- the email address on your order

Write to **support@mometrix.net**. We reply within one business day.

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QUESTION 1 SINGLE CHOICE

According to NFPA 99, medical air (Level 1) is required to be supplied to which of the following patient care areas?

A Patient bedrooms in long-term care facilities only

B **Critical care areas such as intensive care units and neonatal units**

C Hospital loading docks and maintenance corridors

D Administrative office spaces within healthcare facilities

ANSWER **B**

WHY Level 1 medical air is required in healthcare facilities to support human respiration and clinical use in critical care areas such as intensive care units, neonatal units, and other locations where patients depend on medical air for respiratory support. It is not intended for non-clinical or non-patient areas, and patient bedrooms in long-term care are not necessarily supplied with Level 1 medical air unless clinical need exists.

QUESTION 2 SINGLE CHOICE

When brazing copper medical gas piping, what purge gas is required during the brazing process?

A Oxygen USP

B **Nitrogen NF**

C Medical air

D Argon USP

ANSWER **B**

WHY NFPA 99 requires the use of nitrogen (typically Nitrogen NF or Oil-Free, Dry Nitrogen) as a purge gas during brazing of medical gas copper piping. Nitrogen displaces oxygen and prevents internal oxidation (scale) inside the tubing, which could otherwise contaminate the medical gas system. Oxygen, medical air, and argon are not acceptable purge gases for this procedure.

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QUESTION 3 SINGLE CHOICE

For a newly installed medical gas pipeline system, what is the minimum duration the system must maintain the initial pressure test at the working pressure or 1.5 times the working pressure?

A 15 minutes

B 30 minutes

C 1 hour

D 24 hours

ANSWER C

WHY Per NFPA 99, the initial pressure test for medical gas piping requires the system to be pressurized and maintained for a minimum of 1 hour (60 minutes) to verify the integrity of joints, fittings, and piping. Shorter durations are insufficient to detect slow leaks, while 24 hours is associated with a different test (such as the 24-hour standing pressure test for vacuum systems in some cases).

QUESTION 4 SINGLE CHOICE

Type K copper tubing used in medical gas installations must comply with which standard?

A ASTM B88

B ASTM B280

C ASME B31.1

D ANSI Z21.22

ANSWER A

WHY Type K copper tubing for medical gas installations must comply with ASTM B88, which covers seamless copper water tube used in medical gas and other applications. ASTM B280 applies to ACR (air conditioning and refrigeration) copper, ASME B31.1 is the Power Piping Code, and ANSI Z21.22 applies to relief valves for hot water systems. These are not the applicable standards for medical gas copper tubing.

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QUESTION 5 SINGLE CHOICE

Medical gas station outlets and inlets are typically required to be identified by which of the following methods?

A Stenciled building address on the surrounding wall

B Color coding and labeling per NFPA 99 / CGA standards

C Manufacturer's date code printed on the faceplate

D Reflective tape applied only to the trim plate edges

ANSWER B

WHY Medical gas station outlets and inlets must be clearly identified by color coding and labeling in accordance with NFPA 99 and the Compressed Gas Association (CGA) standards. Each gas service (oxygen, medical air, vacuum, nitrous oxide, etc.) has a specific color and label to prevent dangerous misconnections. Building address, date codes, and reflective tape are not acceptable identification methods.

QUESTION 6 SINGLE CHOICE

Which medical gas presents the greatest combustion-supporting risk and must be kept away from ignition sources, oils, and greases?

A Medical air

B Oxygen USP

C Nitrous oxide USP

D Carbon dioxide USP

ANSWER B

WHY Oxygen USP strongly supports combustion. Contact with oils, greases, or ignition sources can cause fires or explosions in oxygen-enriched environments. While nitrous oxide also supports combustion, oxygen is the primary combustion-supporting medical gas and requires the strictest controls. Medical air (21% oxygen) and carbon dioxide are less combustion-supporting than pure oxygen.

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QUESTION 7 SINGLE CHOICE

Per NFPA 99, a master alarm panel for the medical gas system is required to be located in which area?

A Inside the medical gas manifold room only

B **In a continuously attended location, typically the facility's telephone switchboard or staffed control area**

C Within the boiler mechanical room

D On the roof of the healthcare facility

ANSWER **B**

WHY NFPA 99 requires the master alarm signal for medical gas systems to be located in a continuously attended location so that alarm conditions can be promptly recognized and responded to. Telephone switchboard operators' rooms, staffed nursing stations, security desks, or other continuously occupied areas are typical locations. Manifold rooms, mechanical rooms, and rooftops are not continuously attended locations for alarm monitoring.

QUESTION 8 SINGLE CHOICE

The medical surgical vacuum system is required to be designed for what primary clinical purpose?

A Supplying respiratory support to patients

B **Evacuating fluids, blood, and gases from the patient care environment and surgical fields**

C Powering pneumatic surgical tools

D Supplying anesthetic gases for inhalation

ANSWER **B**

WHY The medical-surgical vacuum system is designed to evacuate fluids, blood, saliva, vomitus, and anesthetic gases from the patient care area, particularly during surgical procedures and at patient bedside. It is a suction system, not a respiratory supply. Anesthetic gases are supplied by nitrous oxide and other anesthetic pipelines, and pneumatic tools are powered by medical air or compressed air, not vacuum.

QUESTION 9 MULTIPLE CHOICE

Which of the following are required support and protection practices when installing medical gas copper piping? (Choose two.)

A **Piping must be supported by pipe hangers suitable for copper and spaced per NFPA 99**

B **Piping must be protected from physical damage where it passes through structural members or is exposed**

C Piping may be in direct contact with dissimilar metals without concern

D Piping may be supported by the building's electrical conduit system for convenience

ANSWER **A** · **B**

WHY NFPA 99 requires medical gas copper piping to be properly supported with hangers appropriate for copper (to avoid galvanic corrosion and mechanical damage) and spaced at required intervals. Piping must also be protected from physical damage where it penetrates walls, floors, or is otherwise exposed. Direct contact with dissimilar metals and using electrical conduit as supports are both prohibited because they can cause corrosion, electrical hazards, and mechanical failure.

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