

01	☒ A	☐ B	☐ C	☐ D	☐ E
02	☐ A	☐ B	☒ C	☐ D	☐ E
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30	☒ A	☐ B	☐ C	☐ D	☐ E
31	☒ A	☐ B	☐ C	☐ D	☐ E
32	☐ A	☒ B	☐ C	☐ D	☐ E
33	☐ A	☐ B	☒ C	☐ D	☐ E
34	☒ A	☐ B	☐ C	☐ D	☐ E
35	☐ A	☒ B	☐ C	☐ D	☐ E
36	☐ A	☐ B	☐ C	☒ D	☐ E
37	☐ A	☐ B	☒ C	☐ D	☐ E
38	☐ A	☐ B	☒ C	☐ D	☐ E
39	☒ A	☐ B	☐ C	☐ D	☐ E

PRACTICE QUESTIONS

Arkansas Contractors Licencing Board

G953MRR4

AR Steel, Alloy, Ornamental, Metal Fabrication, Welding - Commercial

EDITION

Demo

QUESTIONS

9

FORMAT

Limited Edition PDF

Before you begin

What this is

9 practice questions for Arkansas Contractors Licencing Board G953MRR4 , 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, G953MRR4
- the question number
- the email address on your order

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

QUESTION 1

SINGLE CHOICE

Which item of personal protective equipment (PPE) is required to be worn by a welder to protect the eyes and face from ultraviolet radiation, sparks, and flying particles during shielded metal arc welding (SMAW)?

- ☐ A Hard hat
- ☒ B Welding helmet with an appropriate filter lens shade number
- ☐ C Standard safety glasses only
- ☐ D Dust mask

ANSWER B

WHY An auto-darkening or passive welding helmet with a filter lens of the correct shade number (per AWS Z49.1) is required to protect the welder's face and eyes from intense UV/IR radiation, sparks, and spatter generated during arc welding. Hard hats protect against impact, safety glasses alone do not provide adequate UV/IR protection, and dust masks address respiratory hazards only.

QUESTION 2

SINGLE CHOICE

In structural steel construction governed by the AISC Steel Construction Manual, which type of bolt is identified by a raised grade marking on the bolt head (e.g., 'A325' or 'A490') and is commonly used in high-strength structural connections?

- ☐ A Machine bolt (A307)
- ☒ B High-strength structural bolt
- ☐ C Lag bolt
- ☐ D Carriage bolt

ANSWER B

WHY ASTM F3125 (formerly A325 and A490) high-strength structural bolts are required to have a manufacturer's identification and grade marking on the head so inspectors can verify the correct fastener was used. A307 machine bolts are low-carbon and not used for high-strength connections, and lag and carriage bolts are not structural fasteners.

QUESTION 3

SINGLE CHOICE

In shielded metal arc welding (SMAW), the function of the flux coating on a consumable electrode is to:

- ☐ A Carry electrical current to the workpiece
- ☒ B Form a slag and provide a shielding gas to protect the molten weld pool from atmospheric contamination
- ☐ C Cool the electrode holder
- ☐ D Serve as a filler metal only

ANSWER B

WHY In SMAW the flux coating decomposes in the arc to generate a shielding gas envelope and forms a protective slag over the cooling weld bead, preventing atmospheric oxygen and nitrogen from contaminating the weld. The filler metal is the steel core wire itself; the flux does not carry the current and does not cool the holder.

QUESTION 4

SINGLE CHOICE

When reading a fabrication shop drawing, the standard view that shows the true size and shape of a feature as it would appear looking directly at it, without foreshortening, is the:

- ☐ A Isometric view
- ☒ B Orthographic (true/auxiliary) view
- ☐ C Perspective view
- ☐ D Sectional pictorial view

ANSWER B

WHY Orthographic views (including true and auxiliary views) project the object onto a plane perpendicular to the line of sight so dimensions and shapes are shown at true size without distortion. Isometric and perspective views are pictorial and cannot be measured directly because of foreshortening; a sectional pictorial view is still pictorial.

QUESTION 5

SINGLE CHOICE

Under AWS D1.1 Structural Welding Code – Steel, a welder's qualification test plate must be welded using which of the following positions in order to qualify the welder for production welding in that position?

- ☐ A Any position the welder prefers
- ☐ B Only the flat (1G/1F) position, regardless of production position
- ☒ C The same position (and within the same ranges of thickness and diameter) as the production work to be performed
- ☐ D Only the vertical (3G/3F) position

ANSWER C

WHY AWS D1.1 requires that welder qualification tests be performed in the same welding position, with the same process, and within the same base-metal thickness/diameter ranges as the work the welder will perform. A flat-only qualification does not automatically qualify a welder for vertical or overhead work, and a welder cannot self-select an unrelated test position.

QUESTION 6

SINGLE CHOICE

Which base metal is most commonly specified for ornamental iron railings, fences, and gates because it can be readily hot-forged, bent, and welded while offering good corrosion resistance in exterior applications?

- ☐ A Cast iron
- ☒ B Wrought iron / mild steel (A36) hollow tube and solid bar
- ☐ C Stainless steel Type 310 only
- ☐ D Titanium

ANSWER B

WHY Ornamental metal fabricators typically use mild carbon steel (ASTM A36) solid bar, plate, and structural tube (and, for premium restoration work, true wrought iron) because it is readily hot-worked, forged, formed, and welded. Cast iron is brittle and not weldable by ordinary methods, Type 310 stainless is a high-temperature alloy not commonly used for ornamental work, and titanium is far too costly.

QUESTION 7

SINGLE CHOICE

Which non-destructive testing (NDT) method uses high-frequency sound waves introduced through a couplant to locate discontinuities such as cracks, lack of fusion, and porosity within a weld?

- ☐ A Magnetic particle testing (MT)
- ☒ B Ultrasonic testing (UT)
- ☐ C Dye penetrant testing (PT)
- ☐ D Visual testing (VT)

ANSWER B

WHY Ultrasonic testing (UT) transmits high-frequency sound waves through a liquid couplant into the weld; reflected signals indicate the location and size of internal discontinuities. MT detects surface and near-surface flaws on ferromagnetic materials using magnetic fields and particles; PT locates surface-breaking defects using capillary action; VT relies solely on the inspector's eyes.

QUESTION 8

SINGLE CHOICE

When using an oxy-fuel cutting torch to cut mild steel plate, the primary purpose of the preheat flame is to:

- ☐ A Melt the steel and blow it away with the cutting oxygen
- ☒ B Raise the steel to its ignition temperature so the cutting oxygen stream can oxidize (burn) the metal
- ☐ C Cool the nozzle and tip
- ☐ D Provide shielding gas for the cut surface

ANSWER B

WHY Oxy-fuel cutting is a chemical (oxidation) process, not a melting process. The preheat flame brings the steel to its ignition temperature (~1,600 °F / 870 °C), after which the high-pressure cutting oxygen jet reacts with the iron, producing iron oxide and blowing the molten oxide from the kerf. It does not cool the tip and provides no shielding gas function.

QUESTION 9

SINGLE CHOICE

Before striking an arc in a confined space, a welder must ensure adequate ventilation because the primary hazard from the welding plume is exposure to:

- ☒ **A Carbon monoxide and other toxic fumes that can cause metal fume fever or asphyxiation**
- ☐ B Nitrogen gas which displaces breathable air
- ☐ C Argon gas leakage from the shielding supply
- ☐ D Ozone produced only by gas tungsten arc welding

ANSWER A

WHY Welding in confined spaces produces toxic fumes (most notably from coated electrodes and stainless steel — hexavalent chromium, manganese, fluorides, plus carbon monoxide from CO₂-shielded processes). OSHA 29 CFR 1910.252 requires local exhaust ventilation or respiratory protection when natural ventilation is insufficient. Nitrogen, argon, and ozone are not the primary hazard the standard addresses.