

**Western Mine Rescue Association  
Nevada Underground Mine Rescue Contest  
March 11-14, 2024**



**Directions:**

- 1. Find the correct answer to each of the questions.**
- 2. Select only one answer per question.**
- 3. Then, fill in the corresponding circle on the answer sheet for each numbered question.**

# Western Mine Rescue Association

## Team Trainer Competition – Written Test

1. Sulfur dioxide include:
  - A. 2.2638
  - B. Highly toxic and can be an asphyxiant
  - C. Explosive
  - D. A and B
2. The specific gravity of hydrogen is 1.5625.
  - A. 1.5625
  - B. .0695
  - C. .9107
  - D. .0645
3. Acetylene is colorless and tasteless. It has a slight \_\_\_\_\_ odor.
  - A. Onion
  - B. Sour Cream and Onion
  - C. Garlic
  - D. None of the above
4. Smoke is
  - A. Considered to be an asphyxiant
  - B. Explosive
  - C. Does not limit your visibility
  - D. A and B
5. If the weight of a gas you're testing for is \_\_\_\_\_ then normal air, you'll know to test for it near the back of the mine.
  - A. Heavier
  - B. Lighter
  - C. None of the above
6. To help ensure your team's safety while working underground, the main fan(s) should be:
  - A. Locked out, monitored, and operates continuously.
  - B. Shut down and guarded.
  - C. Monitored, and guarded by and authorized individual to make sure continuous operation.
  - D. Monitored or guarded by and authorized individual to make sure continuous operation.

7. The basic principle underlying mine ventilation is that air always moves from \_\_\_\_ pressure regions to \_\_\_\_ pressure regions.
  - A. Low to High
  - D. High to Low
  - B. East to West
8. The teams map person is responsible for marking down information on the map as the team explores and assesses ventilation.
  - B. True
  - D. False
9. Porous stoppings such as concrete block stoppings are usually plastered on the \_\_\_\_ pressure side to reduce air leakage.
  - A. Low
  - B. Surface
  - C. High
  - D. None of the above
10. Check curtains are designed to close automatically after you have passed through them so that they continue to direct air to the working place.
  - A. True
  - B. False
11. You arrive at a patient who is chopping wood and an axe is stuck into the patient's chest. A bystander witnessed cardiac arrest. The patient was chopping wood, you find the patient with an axe stuck into the patient's chest. What is the first step you would take?
  - A. Protect the scene as it may be a crime scene.
  - B. Open the patient Air Way.
  - C. Remove the axe and start CPR.
  - D. Check for a pulse
12. According to the 2024 Metal and Nonmetal Mine Rescue Contest Rules, the team captain will start the timing device and date the board (Month, day, year and team name) before receiving the problem and the map.
  - A. True
  - B. False
13. According to the 2024 Metal and Nonmetal Mine Rescue Contest Rules, regulating airflow to control a fire is not considered a ventilation change.
  - A. True
  - B. False
14. According to the 2024 Metal and Nonmetal Mine Rescue Contest Rules, A minimum of one temporary roof support must be set to examine or recover a patient.
  - A. True
  - B. False

15. According to the 2024 Metal and Nonmetal Mine Rescue Contest Rules, this symbol means:

- A. Line Curtain
- B. Wing Curtain
- C. Live Communications
- D. Both A and B



16. According to Title 30 CFR Part 49.2, every operator of an underground mine shall establish at least \_\_\_ mine rescue teams which are available at all times when miners are underground or enter into an arrangement for these services.

- A. Four
- B. Three
- C. Two
- D. One

17. According to Title 30 CFR Part 49.6 (a) (5), each mine rescue station shall be provided with at least Twelve self-contained breathing apparatus, each with a minimum of two hour capacity.

- A. True
- B. False

18. According to Title 30 CFR Part 49.6 (a) (6), gas detectors must measure concentrations of Carbon Monoxide from 0.0 parts per million to at least \_\_\_\_\_ parts per million.

- D. 900
- C. 999
- B. 9,000
- A. 9,999

19. According to Title 30 CFR Part 49.8 (c), a mine rescue team member will be ineligible to serve on a team if more than \_\_\_ hours of training is missed during one year, unless additional training is received to make up for the time missed.

- A. 4
- B. 8
- C. 16
- D. None of the above

20. According to Title 30 CFR Part 49.8 (g), a record of training of each team member shall be on file at the mine rescue station for a period of two years.

- C. True
- D. False

21. Body substance isolation (BSI) precautions are specific steps that help to minimize exposure to a patient's blood and body fluids.
- A. True
  - B. False
22. The \_\_\_\_\_ is an imaginary vertical line that divides the body into right and left halves.
- A. Proximal
  - B. Inferior
  - C. Midline
  - D. Superior
23. There are \_\_\_\_\_ levels of Hazmat Training
- A. Six
  - B. Five
  - C. Four
  - D. Three
24. When using the lift-and-slide technique, this maneuver requires a minimum of \_\_\_\_\_.
- A. Six
  - B. Five
  - C. Three
  - D. Two
25. The Cardiovascular System includes.
- A. The Blood, Blood Vessels, The heart
  - B. Oxygen, Arteries, The Heart
  - C. The Heart, The respiratory System, The Skin
  - D. The Heart, left ventricle, right atrium.
26. Wheeled extinguishers can weigh from \_\_\_\_\_ to \_\_\_\_\_ pounds.
- A. 75 to 400
  - B. 2 to 55
  - C. 75 to 350
  - D. 2 to 50
27. To effectively and quickly put out the fire, you should direct the stream of dry chemical to about \_\_\_\_\_ inches ahead of the flame edge.
- A. 5 to 20
  - B. 6
  - C. 5 to 8
  - D. 6 to 8
28. The high expansion foam is made by:
- A. Mixing water
  - B. Mixing water, oxygen, and foam concentrate.
  - C. Mixing water, air, detergent
  - D. None of the above

29. If heat, smoke, and ventilating air currents permit, water is the most desirable and efficient means of fighting a fire, even if it's an electrical fire.
- B. True
  - A. False
30. During direct firefighting, which certain hazards to the team which you should be aware of:
- A. Electrocution and explosive gases
  - B. Toxic and asphyxiating gases
  - C. Oxygen deficiency
  - D. All of the above

# Western Mine Rescue Association

## Team Trainer Competition – Answer Key

### ANSWER KEY

- |              |           |   |
|--------------|-----------|---|
| 1. <b>D</b>  | pg. 2-21  | MSHA Publication 3027                       |
| 2. <b>B</b>  | pg. 2-23  | MSHA Publication 3027                       |
| 3. <b>C</b>  | pg. 2-24  | MSHA Publication 3027                       |
| 4. <b>B</b>  | pgs. 2-26 | MSHA Publication 3027                       |
| 5. <b>B</b>  | pg. 2-6   | MSHA Publication 3027                       |
| 6. <b>D</b>  | pg. 3-4   | MSHA Publication 3027                       |
| 7. <b>D</b>  | pg. 3-5   | MSHA Publication 3027                       |
| 8. <b>D</b>  | pg. 3-5   | MSHA Publication 3027                       |
| 9. <b>C</b>  | pg. 3-8   | MSHA Publication 3027                       |
| 10. <b>A</b> | pg. 3-9   | MSHA Publication 3027                       |
| 11. <b>C</b> | pg. 21    | EMR 11 <sup>th</sup> Edition Ch. 11Pg 200   |
| 12. <b>B</b> | pg. 24    | 2024 National MNM Mine Rescue Contest Rules |
| 13. <b>A</b> | pg. 33    | 2024 National MNM Mine Rescue Contest Rules |
| 14. <b>B</b> | pgs. 32   | 2024 National MNM Mine Rescue Contest Rules |
| 15. <b>D</b> | pg. 65    | 2024 National MNM Mine Rescue Contest Rules |
| 16. <b>C</b> |           | 30 CFR Part 49.2                            |
| 17. <b>B</b> |           | 30 CFR Part 49.6(a)(5)                      |
| 18. <b>D</b> |           | 30 CFR Part 49.6(a)(6)                      |
| 19. <b>B</b> |           | 30 CFR Part 49.8(c)                         |
| 20. <b>D</b> |           | 30 CFR Part 49.8(g)                         |
| 21. <b>A</b> | pg. 36    | EMR 11 <sup>th</sup> Edition                |
| 22. <b>C</b> | pg. 57    | EMR 11 <sup>th</sup> Edition                |
| 23. <b>B</b> | pg. 544   | EMR 11 <sup>th</sup> Edition                |
| 24. <b>B</b> | pg. 112   | EMR 11 <sup>th</sup> Edition                |
| 25. <b>A</b> | pg. 63    | EMR 11 <sup>th</sup> Edition                |
| 26. <b>C</b> | pg. 5-6   | MSHA Publication 3027                       |
| 27. <b>B</b> | pg. 5-7   | MSHA Publication 3027                       |
| 28. <b>C</b> | pg. 5-9   | MSHA Publication 3027                       |
| 29. <b>A</b> | pg. 5-14  | MSHA Publication 3027                       |
| 30. <b>D</b> | pg. 5-14  | MSHA Publication 3027                       |