

2013 Nevada Mine Rescue Contest  
Winnemucca, Nevada  
March 12, 2013  
Team Trainer Written Test

Name: \_\_\_\_\_

Company: \_\_\_\_\_

Team: \_\_\_\_\_

Chose the correct answer by circling the letter next to it using a pencil. If you make a mistake, please erase your marks completely.

1. A person trained in the use and care of self-contained breathing apparatus shall inspect and test the apparatus at intervals not exceeding 90 days and shall certify by signature and date that the inspections and tests were done.
  - a. True
  - b. False (false, 30 days page 4-14, MSHA 3027 & 49.6(b)(1))
2. The formula used to find the quantity of air moving through a drift is:
  - a. Quantity (ft<sup>3</sup>) = Area (ft<sup>2</sup>) x Velocity (ft/min.) (#5, page 3-19, MSHA 3027)
  - b. Quantity (ft<sup>3</sup>) = Area (ft<sup>2</sup>) x Velocity (ft/sec.<sup>2</sup>)
  - c. Quantity (ft<sup>2</sup>) = Area (ft<sup>2</sup>) x Velocity (ft/min.)
3. During first-aid, scene size up begins \_\_\_\_\_.
  - a. By taking BSI precautions
  - b. With determining scene safety
  - c. With the information you receive from dispatch before you arrive on site (Brady 8<sup>th</sup>, page 163- Scene safety and size up starts from the information you receive before you get to the accident scene. Think about the possible safety hazards while enroute and patient's possible injuries and treatments.)
  - d. By identifying the mechanism of injury or nature of illness
4. High levels (1000 ppm) of sulfur dioxide (SO<sub>2</sub>) will explode violently when combined with 21% oxygen.
  - a. True
  - b. False (Page 2-63, MSHA 3027)
5. Hydrogen sulfide (H<sub>2</sub>S) is only considered a toxic gas.
  - a. True
  - b. False (Page 2-61, MSHA 3027)
6. After Damp is:
  - a. Toxic and explosive
  - b. A mixture of four mine gasses
  - c. Is always present after a mine fire or explosion
  - d. A and C (Pages 2-27 & 2-28, MSHA 3027)
  - e. None of the above

7. Categorization of the patient as trauma is based primarily on what two factors?
  - a. Scene size up and the patient's vital signs
  - b. Immediate assessment of the scene and initial assessment
  - c. Assessment of the scene and mechanism of injury (Brady 8<sup>th</sup>, Page 161 – Categorization of the patient as being injured (trauma) is based primarily on the scene findings and the mechanism of injury. These two components of scene size up provide the preliminary information that allows you to categorize the patient to medical or trauma and determine priority of care.)
  - d. Immediate assessment of the scene and the patient's mental status
8. A "line brattice" is used to
  - a. Connect two points on a mine map.
  - b. Direct air to flush out noxious or explosive gasses. (Page 3-24, MSHA 3027)
  - c. Divert water.
9. Overcasts are normally used to
  - a. Allow two air currents to cross at intersections without mixing. (Page 3-11, MSHA 3027)
  - b. Allow drainage
  - c. Neither of the above
10. Bulkhead and stopping mean the same thing when it comes to ventilation.
  - a. True (Page 3-8, MSHA 3027)
  - b. False
11. Hydrogen Sulfide has an explosive range of \_\_\_\_\_ in normal air
  - a. 3.4 to 54.5%
  - b. 4.3 to 45.5 ppm
  - c. 5 to 15%
  - d. 4.3 to 45.5% (Page 2-61, MSHA 3027)
12. Radon has an explosive range of
  - a. 7.526%
  - b. 7.526 ppm
  - c. None of the above
  - d. Radon is non-explosive (Page 2-25, MSHA 3027)
13. At times it may be necessary to restrain a person suffering from hysteria while exiting the mine.
  - a. True (page 6-7, MSHA 3027)
  - b. False
14. When determining your patient's responsiveness during your initial assessment using the AVPU scale, the V in the acronym means:
  - a. Vital signs
  - b. Verbal (Brady 8<sup>th</sup>, page 170 – AVPU is a measurement used to determine responsiveness and it stands for Alert, Verbal, Painful, Unresponsive)
  - c. Ventricle
  - d. Visceral

15. When opening a sealed fire area, you should
  - a. Monitor gas concentrations.
  - b. Cut off electrical power in the sealed area.
  - c. Allow television reporters to be in the mine to video tape the event.
  - d. Check the exhaust airway for potential ignition sources.
  - e. A, B and D (Page 7-6, MSHA 3027)
16. Gas detector requirements are spelled out in the 30 CFR under which section?
  - a. 49.2 (d)
  - b. 49.6(a)(6) (page 2-3, MSHA 3027)
  - c. 49.3 (a)(1)
  - d. None of the above
17. Light gasses tend to disperse and diffuse slower than heavier gasses.
  - a. True
  - b. False (Page 2-7, MSHA 3027)
18. Which of the following are true when pumping water?
  - a. Pay special attention to ground conditions.
  - b. Water soluble gasses can be released.
  - c. None of the above.
  - d. Both of the above. (Page 7-2 & 13, MSHA 3027)
19. When taking an initial assessment of a patient's pulse, if you do not feel a radial pulse you should immediately:
  - a. Check for the presence of a carotid pulse (Brady 8<sup>th</sup>, page 185 – When a radial pulse cannot be felt, you should check for a carotid pulse in the neck. Often when there is no radial pulse, the patient has a carotid pulse. First responders should never begin CPR without first checking the carotid pulse.)
  - b. Perform a rapid physical exam, take vital signs, gather patient history
  - c. Check airway and begin CPR
  - d. Perform CPR, call for help
20. During exploration, a team's first priority is:
  - a. Getting to survivors as quickly as possible.
  - b. Ventilation
  - c. Serious head injuries
  - d. None of the above (Page 4-12, MSHA 3027)
21. 30 CFR requires certain team equipment, which section is it?
  - a. 49.2 (d)
  - b. 49.6 (a) (page 4-13, MSHA 3027)
  - c. 49.3 (a)
22. The location of dinner buckets should be marked on the mine map.
  - a. True (page 4-30, MSHA 3027)
  - b. False

23. The fresh air base coordinator is responsible for:
- Maintaining communication between the team and command center.
  - Following the team's progress and making sure findings are marked on the map.
  - Coordinating the activities at the command center.
  - All of the above
  - A & C (Page 4-8, MSHA 3027)
24. The team briefing is normally conducted:
- At the fresh air base
  - Command center (page 4-15, MSHA 3027)
  - Neither of the above
25. The team captain should check each team member's physical condition before traveling to the fresh air base and before exploration begins.
- True (Page 4-19, MSHA 3027)
  - False
26. Following an accident or during a mine emergency MSHA may issue a "K" or "J" order. Which section of the MINE ACT of 1977 would these fall under?
- Section 104
  - Section 110
  - Section 103 (an AR may issue orders to protect miners and preserve evidence under 103)
  - Section 105
27. The amount of time a team spends underground depends upon:
- The conditions underground
  - The type of apparatus being used
  - Whether or not you have found the fire.
  - A & B (Page 4-31, MSHA 3027)
28. The purpose of the debriefing is to:
- Provide information to the command center (page 4-32, MSHA 3027)
  - Meet with the families of missing miners
  - Discuss your findings with the press
29. Normally gasses do not stratify when the ventilation system in a mine is working properly.
- True (page 2-7, MSHA 3027)
  - False
30. The manufacturer recommends that a functional (bump) test be performed on the gas instrument after each day's use.
- True
  - False (ISC recommends the bump test prior to use (page 23 iTX (rev 6), page 17 MX6 (rev 3))