

2013 Nevada Mine Rescue Contest
Winnemucca, Nevada
March 12, 2013
General Written Test

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. The Fresh Air Base and Team Captain make the decision to advance fresh air or build an airlock
 - a. True
 - b. False (false, the command center does this, page 6-4, MSHA 3027, last full paragraph)
2. 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))
3. The formula used to find the quantity of air moving through a drift is:
 - a. Quantity (ft³) = Area (ft²) x Velocity (ft/min.) (#5, page 3-19, MSHA 3027)
 - b. Quantity (ft³) = Area (ft²) x Velocity (ft/sec.²)
 - c. Quantity (ft²) = Area (ft²) x Velocity (ft/min.)
4. It's okay to alter ventilation without command center approval if:
 - a. All team members agree it needs to be done.
 - b. All fires have been extinguished.
 - c. Gas readings at your present location are normal.
 - d. None of the above (Page 3-3, MSHA 3027)
5. High levels (1000 ppm) of sulfur dioxide (SO₂) will explode violently when combined with 21% oxygen.
 - a. True
 - b. False (Page 2-63, MSHA 3027)
6. Hydrogen sulfide (H₂S) is only considered a toxic gas.
 - a. True
 - b. False (Page 2-61, MSHA 3027)
7. 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
8. Gas diffuses slowly in higher temperatures.
 - a. True
 - b. False (Page 2-39, MSHA 3027)

9. 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.
10. 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
11. Bulkhead and stopping mean the same thing when it comes to ventilation.
 - a. True (Page 3-8, MSHA 3027)
 - b. False
12. 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)
13. 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)
14. 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
15. 3rd degree burns covering 3% of a person’s body are considered a low or third priority condition.
 - a. True
 - b. False (Page 6-6, MSHA 3027)
16. 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)
17. 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
18. Light gasses tend to disperse and diffuse slower than heavier gasses.
 - a. True
 - b. False (Page 2-7, MSHA 3027)

19. 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)
20. You can always depend on your senses to identify a gas.
 - a. True
 - b. False (Page 2-8, MSHA 3027)
21. 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)
22. 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)
23. The location of dinner buckets should be marked on the mine map.
 - a. True (page 4-30, MSHA 3027)
 - b. False
24. The fresh air base coordinator is responsible for:
 - a. Maintaining communication between the team and command center.
 - b. Following the team's progress and making sure findings are marked on the map.
 - c. Coordinating the activities at the command center.
 - d. All of the above
 - e. A & C (Page 4-8, MSHA 3027)
25. The team briefing is normally conducted:
 - a. At the fresh air base
 - b. Command center (page 4-15, MSHA 3027)
 - c. Neither of the above
26. The team captain should check each team member's physical condition before traveling to the fresh air base and before exploration begins.
 - a. True (Page 4-19, MSHA 3027)
 - b. False
27. If the captain comes across a closed door during exploration, it is okay to enter without air locking if:
 - a. He knocks first
 - b. The air is good everywhere else
 - c. He knows what the conditions are behind it (Page 4-26, MSHA 3027)

28. 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)
29. 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
30. Normally gasses do not stratify when the ventilation system in a mine is working properly.
- True (page 2-7, MSHA 3027)
 - False