

**2015 Southwestern Regional Mine Rescue Contest
Ruidoso, NM
Written Test – Field Competition**

Name _____ Company _____

Team Name _____ Contest Position No. _____

Team Member No. _____

Directions: Use answer sheet & fill in completely.

1. As fresh air is advanced, the mines tracking system should be repaired or a substitute system advanced to aid expediting the recovery operations.
 - a. True
 - b. False (Modules pg. 7-13)

2. The explosive range of Radon in normal air is?
 - a. 2.12 – 9.35%
 - b. 3.0 – 12.5%
 - c. 2.5 – 9.35%
 - d. None of the above (Modules pg. 2-23)

3. Reestablishing ventilation and bringing fresh air to an area damaged by fire or explosion is the main task of mine rescue teams in a rescue operation.
 - a. True
 - b. False (Modules pg. 7-4)

4. If heat, smoke, and ventilating air currents permit, water is the most desirable and efficient means of fighting a fire, even if it an electrical fire.
 - a. True
 - b. False (Modules pg. 5-14)
 - c.

5. Air locking operations should never be undertaken until the oxygen content of the air behind the seals has been reduced to at least _____%.
 - a. 2.0% (Modules pg. 7-7)
 - b. .05%
 - c. 1%
 - d. 5.0%

6. When advancing into an area that has been inundated with water, teams should pay special attention to _____.
 - a. Ventilation
 - b. Soluble Gases
 - c. Ground Conditions (Module pg. 7-13)
 - d. None of the above

7. You can allow a rescued miner to walk out of the mine alone if the miner appears to be in good shape?
 - a. True
 - b. False (Modules pg. 6-7)
8. Usually, after temporary seals are erected, a waiting period of about 72 hours is recommended before beginning construction on permanent seals?
 - a. True (Modules pg. 5-22)
 - b. False
9. Putrefaction is the decomposition of organic matter by bacteria, fungi, and oxidation, resulting in the formation of foul-smelling products.
 - a. True (Modules pg. 6-14)
 - b. False
10. The smoke tube is a device that emits a smoke cloud which floats along with the air current to show the quantity of the airflow and the approximate velocity of the airflow.
 - a. True
 - b. False (Modules pg. 3-18)
11. Butane has an explosive range of 2.12 to 9.35 percent in normal air.
 - a. True
 - b. False (Modules pg. 2-23)
12. Carbon Dioxide is colorless and odorless, but high concentrations may produce an acid taste.
 - a. True (Modules pg. 2-15)
 - b. False
13. _____ is found after methane explosions in air having low oxygen content?
 - a. Butane
 - b. Ethane
 - c. Acetylene (Modules pg. 2-24)
 - d. Argon
14. The debriefing session is a very important aspect of your team's body recovery operation.
 - a. True
 - b. False (Modules pg. 4-33)
15. _____ stimulates the heart and increases muscular strength and endurance.
 - a. Gatorade
 - b. Adrenaline (Modules pg. 6-10)
 - c. Ventilation
 - d. None of the above
16. The degree to which a toxic gas will affect you depends on three factors: 1) how concentrated the gas is 2) how explosive the gas is and 3) how long you're exposed to the gas?
 - a. True
 - b. False (Modules pg. 2-9)

17. _____ are spring-loaded expandable metal rods that can be used to erect a temporary stopping.
- Curtain rods
 - Post sticks
 - Stopping rods
 - Pogo sticks (Modules pg. 3-22)
18. Very violent explosions are possible when air contains more than 7 to 8 percent hydrogen.
- True (Modules pg. 2-18)
 - False
19. A line brattice is brattice cloth or plastic that is hung to channel intake air into a working area that otherwise would not have adequate ventilation.
- True (Modules pg. 3-10)
 - False
20. The purpose of a permanent stopping is to separate two different atmospheres while still permitting miners to enter and exit without mixing the atmospheres.
- True
 - False (Modules pg. 3-23)
21. Permanent seals must also have provisions for collecting air samples from within the sealed area, temporary seals do not.
- True
 - False (Modules pg. 5-23)
 - None of the above
22. Rock –Strata gases commonly called “rock gas” is assumed to contain what two types of gasses?
- Hydrogen and Carbon Monoxide
 - Nitrogen and Sulfur Dioxide
 - Nitrogen and Carbon Dioxide (Modules pg. 2-26)
 - Hydrogen Sulfide and Hydrogen
23. Oxygen content at _____ will cause dizziness and headaches.
- 17 percent
 - 16 percent
 - 15 percent (Modules pg. 2-14)
 - None of the above
24. In a multi-level mine, a tunnel driven perpendicular to the main vein system of the mine is considered a?
- Drift
 - Stope
 - Crosscut (Modules pg. 3-53)
 - None of the above

25. Another source of nitrogen in underground mines is the detonation of explosives.
- True ([Modules pg. 2-14](#))
 - False
26. Before using indirect ventilation, there should be conclusive evidence that the fire has been extinguished.
- True
 - False ([Modules pg. 7-9](#))
27. When using sandfill, two bulkheads are built 20 to 30 feet apart and the space between the bulkheads is filled with concrete.
- True
 - False ([Modules pg. 5-23](#))
28. Bulkheads are used to direct air to where it is needed and to keep intake air from short-circuiting to the exhaust before it reaches the working area.
- True ([Modules pg. 3-8](#))
 - False
29. A fresh air base is usually established at a point where conditions no longer permit barefaced exploration.
- True ([Modules pg. 4-6](#))
 - False
30. When building temporary seals, one of the most important things to consider is the _____.
- Command Center
 - Fresh Air Base
 - Mine Gases
 - Ventilation ([Modules pg. 5-21](#))
 - None of the above