

Southern Regional Mine Rescue Contest
New Iberia, LA
May 7-9, 2013

WRITTEN TEST

Company Name _____ Team Name _____

Your Team Position _____ Your Name _____

Discounts _____

1. Clean dry air at sea level is made up of 78 percent carbon dioxide.
 - a. True
 - b. False

2. Which of the following are true?
 - a. Air is about 21 percent oxygen
 - b. A 15 percent oxygen concentration will cause dizziness and headaches
 - c. Both a) and b) are true
 - d. Neither a) nor b) is true.

3. Nitrogen is not an explosive gas but it can burn.
 - a. True
 - b. False

4. Which of the following is not true?
 - a. Carbon dioxide is soluble in water
 - b. Carbon dioxide will collect near the floor
 - c. Carbon dioxide will burn but not explode
 - d. None of the above

5. The first symptom of carbon monoxide poisoning is a slight tightening across your forehead and possibly a headache.
 - a. True
 - b. False

6. Oxides of nitrogen are highly toxic. Breathing even small amounts will cause irritable bowel syndrome.
 - a. True
 - b. False

7. When should you test for hydrogen sulfide?
 - a. In poorly ventilated areas of the mine
 - b. During unsealing operations
 - c. Following mine fires
 - d. All of the above

8. Because of its low specific gravity, sulfur dioxide is hard to disperse by ventilation.
- True
 - False
9. Which of the following is the specific gravity of methane?
- 0.5545
 - 0.0554
 - 0.0055
 - 0.0005
10. Acetylene has which following characteristics?
- Garlic color
 - Sweet taste
 - Rotten egg smell
 - None of the above
11. Who maintains a point-of-contact between the Command Center Group and other concerned parties?
- Team captain
 - Team trainer
 - Liaison function
 - Any of the above
12. The (mine rescue) team is under the direct supervision of whom?
- Team captain
 - Mine superintendent
 - MSHA
 - None of the above
13. Natural ventilation is one of two methods of ventilating a mine. The other method is _____ ventilation?
- Unnatural
 - Mechanical
 - Forced
 - Exhaust
14. Bulkhead and overcast are two different terms for the same ventilation control.
- True
 - False
15. Mine doors are always hung so that the air pressure will push them open.
- True
 - False

16. Barefaced exploration should be conducted only when the ventilation system is operating properly.
- True
 - False
17. Some factors to consider when you select a site for a fresh air base include?
- It's assured positive ventilation and fresh air
 - When UG, it's assure a positive fresh air travelway to the surface
 - It can be linked to the surface by a communication system
 - All of the above
18. As you explore the mine, which of the following is true?
- Your first priority is team safety
 - The rescue of survivors comes second
 - Your third priority is the recovery of the mine
 - All of the above
19. Dry chemical extinguishers put out fires by stopping the chemical reaction between the fuel and oxygen.
- True
 - False
20. Water is an effective extinguishing agent for all classes of fires.
- True
 - False
21. Hazards to the team while fighting an underground fire include?
- Heat
 - Smoke
 - Steam
 - All of the above
22. Which of the following is not an indication that an underground explosion may have occurred?
- The presence of afterdamp
 - Blown out timbers and bulkheads
 - Oxygen levels in excess of 21 percent
 - Ground falls
23. When you have located survivors in a refuge chamber or barricade, you should not try to establish communication with them as soon as possible.
- True
 - False

24. The sorting of victims is commonly referred to as a “triangle” system.
- True
 - False
25. Psychologically, when survivors are found, their behavior may range from apprehension to uncontrollable hysteria.
- True
 - False
26. Determining the exact time to unseal a fire is based on the laws of physics and chemistry, as well as on experience and sound judgment.
- True
 - False
27. Which of the following are basic methods of unsealing a fire?
- Progressive, or stage, ventilation
 - Direct ventilation
 - Both a) and b)
 - None of the above
28. The objectives of reestablishing ventilation after an explosion (without propagating another explosion) include?
- Rid the mine of potentially explosive gases
 - Restore normal ventilation
 - Restore normal amounts of oxygen to all workings
 - All of the above
29. Fires, explosions, and other disasters seldom result in weakened ground conditions.
- True
 - False
30. The Command Center is the hub of rescue and recovery operations and is typically staffed and controlled by a mine emergency “command group.” This group is generally comprised of mine management, federal and state officials, and union representatives.
- True
 - False