

Written Field test
Ruidoso New Mexico
May 24, 2011

1. 30 CFR 49.6 require mines to have and post a mine rescue notification plan for notifying all the mine rescue team members that will be needed to assist in the rescue and recovery operation.
A. True
B. False
2. The only pressure ever exerted on a mine gas is atmospheric pressure.
A. True
B. False
3. When the barometer rises mine gases expand.
A. True
B. False
4. When the barometer rises a gas like CH₄ would
A. Expand
B. Contract
C. Defuse
D. None of the above
5. Being the relative weight of air is 1, a gas lighter than air would be recorded .1, .2, .3 etc. and heavier air would be recorded as 1., 2., 3. etc.
A. True
B. False
6. In bare faced exploration you can pretty much rely on color/odor and taste to determine if you need to go under oxygen.
A. True
B. False
7. There are four main causes of oxygen deficiency in a mine which one of the following is not a main cause.
A. Insufficient or improper ventilation which fails to bring enough O₂ to the work area
B. Displacement of the air's O₂ by other gases
C. A fire or explosion that consumes O₂
D. Consumption of O₂ by workers
E. Consumption of O₂ by diesel equipment

8. What is the most poisonous gas found in “afterdamp”?
- A. Carbon monoxide
 - B. Carbon dioxide
 - C. Methane
 - D. Nitrogen
 - E. Hydrogen
9. Characteristics of H₂S include
- A. Explosive
 - B. Highly toxic
 - C. Can be liberated from pools of stagnant water
 - D. All of the above
10. Two gases that are highly soluble in water are
- A. Methane and acetylene
 - B. Hydrogen sulfide and hydrogen
 - C. Nitrogen and sulfur dioxide
 - D. Hydrogen sulfide and sulfur dioxide
11. This mapping symbol (- - - -) is used to indicate what
- A. Foot prints
 - B. Proposed areas of development
 - C. Line brattice
 - D. Water
12. This mapping symbol (D) is used to indicate what
- A. Drainage
 - B. Damage
 - C. Door
 - D. Date and time
13. A velometer is the most common instrument used to test air flow
- A. True
 - B. False
14. When using a smoke tube to check air flow, the correct position in the drift would be
- A. In the middle of the drift
 - B. Low and close to the floor
 - C. High and close to the back
 - D. In one of four quadrants

15. Air velocity is always measured in cubic feet per minute (for mine application)
A. True
B. False
16. To obtain velocity of air movement in a drift the following formula is used $\text{Quantity (ft.)} = \text{Area (ft)} \times \text{velocity (ft. /min.)}$
A. True
B. false
17. A smoke tube is used to determine slow moving air usually air moving less then
A. 200 cfm
B. 175 cfm
C. 150 cfm
D. 120 cfm
E. None of the above
18. The buildup of explosive gases, such as hydrogen and methane, are very real hazards for teams during direct firefighting. That is why it is so important to cut off the flow of air as soon as possible.
A. True
B. False
19. When using a dry chemical extinguisher, you should aim the stream of dry chemical
A. Directly at the flame
B. Directly at the smoke
C. About 12 inches ahead of the flame edge
D. About two feet in front of the flame edge
E. None of the above
20. During a mine fire if you find survivors ensure they are safe where they are at, then find and control the fire without undue delay.
A. True
B. false

21. Factors that influence body deterioration are:
- A. Air temperature
 - B. Body size
 - C. Body fluid
 - D. All of the above
 - E. a and c only
22. Which of the following is not a main factor to consider when unsealing a fire:
- A. Extent and intensity of the fire at the time of sealing
 - B. Tightness of the seals
 - C. Effect of barometric pressure on the enclosed area
 - D. Location of the fire with respect to egress
 - E. Gas conditions as indicated by analysis of air samples taken from behind the seals.
23. Which of the following is a third priority condition when recovering a survivor:
- A. Multiple lacerations
 - B. Second degree burns involving 15 to 30 percent of the body
 - C. Moderate shock
 - D. Back injuries with or without spinal injuries
 - E. Fractured arm, hand, or foot
24. Team members should not drink alcoholic beverages for at least ____ hours after going under oxygen.
- A. 8 to 10
 - B. 24
 - C. 12 to 18
 - D. 6
 - E. None of the above
25. Oxygen deficiency causes tightness in the forehead, headaches, and dizziness at ____%.
- A. 11
 - B. 12
 - C. 14
 - D. 15
 - E. 9

26. Which of the following is not correct about H₂S, it is produced when sulfur compounds decompose. Can be liberated...
- A. From methane feeders
 - B. When acid mine water corrodes oxide ore
 - C. From mine water that contains the gas in solution
 - D. When sulfides are heated in the presence of moisture
 - E. When sulfide ores are blasted
27. _____ determines how quickly a gas will diffuse or disperse.
- A. Specific gravity
 - B. Temperature
 - C. Atmospheric pressure
 - D. A and C
 - E. All of the above
28. _____ is the process by which a team systematically explores all crosscuts and adjacent entries as they advance so they are never forward of an unexplored area.
- A. Cross checking
 - B. Tying in
 - C. Traveling
 - D. Pacing
 - E. None of the above
29. Oxygen deficiency causes tightness in forehead, headaches, and dizziness at _____.
- A. 14%
 - B. 13%
 - C. 15%
 - D. 9%
30. The more obese an individual is; the quicker rigor mortis will develop.
- A. True
 - B. False