

**2013 Central Mine Rescue Contest
Kellogg, Idaho**

Team Trainer

Name _____ Company _____

Team Name _____ Position _____

Team Member No. _____

Directions: Circle the letter preceding the correct answer to each of the following questions. Circle only **one** answer per question.

1. **Silicone vapors will _____ the combustible sensor.**
 - a. Have no effect on.
 - b. Have an inhibiting effect on.
 - c. Over range.
 - d. **Poison.**

2. **How many sensors can be installed in the MX6/iTX?**
 - a. 4 sensors.
 - b. **5 sensors.**
 - c. 6 sensors.
 - d. 7 sensors

3. **The explosive range of Ethane in normal air is?**
 - a. 2.12-9.35%
 - b. **3.0-12.5%**
 - c. 2.5-9.35%
 - d. 1.86-8.41%

4. **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**

5. **_____ is formed when methane is burned or heated in air having low oxygen content?**
 - a. Butane
 - b. Argon
 - c. Ethane
 - d. **Acetylene**

6. When Smoke gets dense it can disorient reference points causing you to fall down, this is called _____?
- a. Spatial distortion
 - b. Spatial distention
 - c. Spatial disorientation
 - d. Spatial difficulty
7. Drowning from water in the lungs can occur by the body trying to counteract corrosive effects from severe exposure of acids formed by _____?
- a. Hydrogen Sulfide
 - b. Oxides of Nitrogen
 - c. Carbon Monoxide
 - d. Sulfur Dioxide
8. The discharge of an extinguisher varies between?
- a. 8-20 seconds
 - b. 5-60 seconds
 - c. 18-25 seconds
 - d. 8-60 seconds
9. Which of these conditions is not a first priority during triage?
- a. Deep shock
 - b. Second degree burns covering 10% of the body
 - c. Severe bleeding
 - d. Inhalation of poisonous gases
10. The ideal time to take an air sample is when the sealed area is under positive pressure?
- a. True
 - b. False
11. Color, order, and taste are sensory properties that can help you identify a gas?
- a. True
 - b. False
12. One of the most poisonousness gasses is Hydrogen Sulfide; concentrations of _____ to _____ percent can cause rapid unconsciousness, cessation of respiration, and death.
- a. 0.07 to 0.10%
 - b. 0.02 to 0.07%
 - c. 0.10 to 0.20%
 - d. 0.04 to 0.05%

13. The use of ice in the cooling system of a BG4 is only required at ambient temperature above 32 degrees C?
a. True
b. False
14. Checking the inhalation valve while testing a BG4, set the tester to negative pressure?
a. True
b. False
15. During the Technician Team Contest there can be multiple bugs or problems. Which of the items shown below is not one of the six listed in the 2012 rule book?
a. Mis-calibrated sensors
b. Out of date calibration gas
c. Incorrect alarm and calibration points
d. Dead or incorrect batteries
16. A new rule was introduced in 2012 concerning the intentional destruction or disturbance of components on a competition field. The point discount assessed for violating this rule is 50 points.
a. True
b. False
17. During the contest gas testing proficiency will be checked. The readings for Nitrogen Dioxide will be considered acceptable if they are within:
a. + or - 0.5%
b. + or - 0.2%
c. + or - 1.0%
d. + or - 5.0%
18. The symbols shown in the Mine Map Legend shown in the 2012 rule book are meant as a guide only and do not need to be used at the National Mine Rescue Contest.
a. True
b. False
19. 30 CFR 49.8(g) requires a mine operator to retain records of training for each team member for a period of:
a. 3 years
b. As long as the member is on the team
c. 1 year
d. 5 years

20. Under 30 CFR 49.4 Alternative mine rescue capability for special mining conditions, one of the conditions that is considered by the District Manager is whether or not roadways or other openings are supported or lined with combustible material.
- a. True
 - b. False
21. 30 CFR 49.2(c) contains a stipulation that a miner who was on a mine rescue team on the “effective date of this rule” is exempt from the underground experience requirement. What year did the standard become effective (not amended)?
- a. 1977
 - b. 1980
 - c. 1976
22. Records of corrective actions made to a breathing apparatus must be kept for:
- a. Until the next inspection by MSHA
 - b. 6 months
 - c. 1 year
 - d. As long as we have that apparatus
23. Section 109(a) of the Mine Act of 1977 requires a mine operator to:
- a. Allow MSHA inspectors to investigate accidents.
 - b. Post citations and orders immediately upon receipt.
 - c. Post a conspicuous sign designating the mine office.
 - d. Both b and c
24. Miner training is required under 30 CFR Part 48 and Section _____ of the Mine Act of 1977.
- a. 104
 - b. 110
 - c. 115
25. Section 108 of the Mine Act of 1977 covers injunctions.
- a. True
 - b. False
26. Section 104 of the Mine Act of 1977 covers citations & orders.
- a. True
 - b. False

27. Which patient is breathing adequately?

- a. 8 year-old breathing 12 times a minute with shallow tidal volume.
- b. 3 month-old breathing 40 times a minute with abdominal movement.**
- c. 22 year-old breathing 26 times a minute with excessive accessory muscle use.
- d. 61 year-old breathing 42 times a minute with a history of smoking.

28. Ventilation of a patient with a BVM (*bag valve mask*) is best performed by a minimum of __ rescuers.

- a. one
- b. two**
- c. three
- d. four

29. All of the following are indications that you are ventilating your patient adequately *except*:

- a. the chest rises and falls with each ventilation
- b. the heart rate slows from 130 to 80 bpm in an adult patient.
- c. the movement of the abdomen increases with each ventilation.**
- d. the skin color begins to return to normal.

30. Abdominal thrusts are performed in an attempt to relieve an airway obstruction in:

- a. infants, children and adults
- b. infants and children
- c. children and adults**
- d. adults only

**2013 CMR Contest
Team Trainer Test
KEY**

1. D
2. B
3. B
4. B
5. D
6. C
7. B
8. D
9. B
10. A
11. B
12. A
13. B
14. B
15. B
16. B
17. D
18. B
19. C
20. A
21. B
22. C
23. D
24. C
25. A

- 26. A
- 27. B
- 28. B
- 29. C
- 30. C