

**2015 TN Mine Rescue Contest
Caryville, TN
Team Trainer Test with Answers**

Name _____
Company _____
Team Name _____
Contest Position No. _____
Team Member No. _____

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

1. Because there is an optional team member (assistant) the fresh air base no longer requires isolation from visual contact with the field while the teams are in the mine.

A. True **B. False (Page 8 of the 2015 Mine Rescue Contest Rules)**

2. A lifeline is no longer required when working the problem.

True **B. False (Page 9 of the 2015 Mine Rescue Contest Rules)**

3. Teams must have a minimum of _____ radios operational during the working of the problem.

A. 4
B. 5
C. 3 (Page 12 of the 2015 Mine Rescue Contest Rules)
D. 7

4. Smoke tubes are used to determine slow moving air velocity below _____.

a. 130 feet per minute
b. 150 feet per minute
c. 140 feet per minute
d. 120 feet per minute (page 3-18)

5. Gas detectors must measure carbon monoxide to at least 15,000 parts per million.

A. True **B. False (page 2-3)**

6. When testing for oxygen with a portable detector you should hold the detector at
- A. Head height
 - B. Low to the ground
 - C. Waist level (p 2-14)
 - D. None of the above
7. Breathing air containing 10 percent carbon monoxide causes violent panting.
- A. True B. False (p. 2-15)
8. Oxides of nitrogen will tend to collect in _____ places in the mine.
- A. Low
 - B. High
9. The presence of other combustible gases with wider explosive ranges or lower ignition points than methane may result in a more highly explosive mixture.
- A. True (p.2-22) B. False
10. Mines are required to keep exposure to radiation below 5 WLM (working level months) per year.
- A. True B. False (2-25)
11. Smoke is normally considered to be an asphyxiant.
- A. True B. False (2-26)
12. Effects of toxic gas depend on concentration, toxicity, and _____.
- A. season of the year
 - B. size of the mine
 - C. weight of the miner
 - D. length of exposure (2-43)
13. The intake airway is referred to as the upcast shaft.
- A. True B. False (3-4)

14. The team's captain is the person responsible for marking down information on the ventilation map as the team explores and assesses ventilation:
A. True B. False (3-5)
15. Knowing the velocity is important because the quantity of airflow can be determined from it.
A. True (3-16) B. False
16. The smoke tube is used to show the direction and velocity of slow-moving air (below _____ feet per minute).
A. 50
B. 60
C. 90
D. 120 (3-18)
17. The quarter points are located at approximately the center of each quadrant, if the airway is divided into four approximate equal parts.
A. True (3-18) B. False
18. Velocity is measured in:
A. cubic feet per minute
B. squared feet per minute
C. feet per second
D. feet per minure (3-19)
19. When using a smoke tube a correction must be made to the averaged figure. The way to do this is to:
A. either multiply the averaged figure by 0.09 and subtract this number from the averaged figure, or multiply the averaged figure by 0.08.
B. either multiply the averaged figure by 0.10 and subtract this number from the averaged figure, or multiply the averaged figure by 0.9. (page 3-19)
C. Apply the calculation - Quantity (ft.³/min.) = Area (ft.²) x Velocity (ft./min.)
D. None of the above
20. Before anyone goes underground, it's important to test for the presence of gases, and someone should make ventilation checks.
A. True (4-5) B. False

21. "Runners" are responsible for maintaining communications with the working rescue team and the command center.
- A. True B. False (p.4-8)
22. How many permissible cap lamps are required to be provided for each mine rescue station?
- A. 10
B. 7
C. 12 (p.4-13)
D. 8
23. Certification and records of corrective action are required to be maintained at the mine rescue station for at least 5 years.
- A. True B. False (p.4-14)
24. Before going underground, watches should be synchronized first with
- A. Team captain
B. Mine operator
C. Fresh air base coordinator (p. 4-18)
D. Co-captain
25. Checks and procedures the team captain performs before the team travels to the fresh air base, and before the team travels beyond the fresh air base does not include which of the following?
- A. Check the state of the ventilations system (fans) and gas conditions at exhausts. (p. 4-19)
B. Check each team member's physical condition
C. Ensure that all needed tools and equipment are ready and working properly.
D. Ensure that all team members understand the instructions from the briefing session.
E. Establish with the fresh air base coordinator what communications will be used.
26. During exploration three signals would commonly mean distress, or emergency.
- A. True B. False (p.4-21)

27. Class D fires are electrical fires. They are extinguished by non-conducting extinguishing agents such as carbon dioxide and certain dry chemicals.
- A. True B. False (p.5-11)
28. What is the fatal range for exposure to nitrogen dioxide?
- A. .02% to .07% (p. 2-57)
B. .05% to .08%
C. .10% to .25%
D. .01% to .05%
29. The officials at the Command Center will decide what types of seals to erect based on all the information they have concerning the fire. Which of the following would not be a factor to consider?
- A. Amount of explosive gases liberated in the mine or present in the area.
B. The office location that is not within close proximity to the fire. (p.5-19)
C. The location of the fire and the area involved.
D. The composition of the overlying strata.
E. The building sites for the seals.
30. When picking an exact site for temporary seals, you should look for _____.
- A. Good ground conditions and even back and side surfaces (p.5-19)
B. Flooding waters, and lamination
C. Hot surfaces, and heavy smoke
D. Previous mine markings, and diesel equipment available

