

## 2021 Craig, CO Mine Rescue Written Test Day 1

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Name \_\_\_\_\_

Team \_\_\_\_\_

1. Atmospheric pressure and temperature are important factors because they:
  - a. affect the rate of diffusion of a gas by ventilation
  - b. can cause false readings on gas detection instruments
  - c. lower oxygen content in the mine
  
2. The type of coal mine where the greatest amount of methane would be likely to be found would be a:
  - a. drift mine with tight and compact adjoining strata
  - b. drift mine with loose or broken adjoining strata
  - c. shaft mine with tight and compact adjoining strata
  
3. Which of the following is not true of sulfur dioxide?
  - a. it is explosive
  - b. it is highly toxic
  - c. it is highly soluble in water
  
4. Accumulations of hydrogen in the mine atmosphere are dangerous because hydrogen:
  - a. is highly toxic
  - b. is highly soluble in water
  - c. is highly explosive

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5. Normal air contains approximately what percent oxygen?
  - a. 15%
  - b. 21%
  - c. 31%
6. Two instruments commonly used to measure velocity of airflow in a mine are:
  - a. Smoke tube.
  - b. Smoke tube and CO detector.
  - c. Smoke tube and anemometer.
7. If at all possible, entry into the mine should be made on:
  - a. A return airway.
  - b. An intake airway.
  - c. The main haulageway.
8. Prior to rescue team exploration, the first step to take after a disaster is to:
  - a. Examine all mine openings.
  - b. Establish a Fresh Air Base.
  - c. Proceed as far as possible into the mine without apparatus.
9. Barefaced exploration should be attempted only when:
  - a. No breathing apparatus is available.
  - b. Miners are trapped in the mine.
  - c. A backup mine rescue team with apparatus is immediately available.

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10. Prior to a mine rescue team passing through a door or stopping/bulkhead behind which conditions are not definitely known, they should:
  - a. Ask the Fresh Air Base to send in the backup team.
  - b. Erect an air lock to prevent the mixing of atmospheres.
  - c. Open the door or stopping/bulkhead, and wait at least 10 minutes so that any harmful gases are diffused.
  
11. If a team member experiences problems with his or her apparatus in by the Fresh Air Base, the team member should:
  - a. Be sent back to the Fresh Air Base with another team member.
  - b. Switch to the apparatus that was carried on the stretcher or stokes basket.
  - c. With the entire team, return immediately to the Fresh Air Base.
  
12. The first indications that an explosion has occurred are often very similar to those of:
  - a. An inundation of water
  - b. A large roof fall
  - c. A fan stoppages
  
13. Burning materials that give off extremely toxic gases in addition to carbon monoxide are:
  - a. The coal seam itself
  - b. Hydraulic fluids
  - c. Neoprene and other synthetic rubber compounds

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14. In advancing a Fresh Air Base, after you put up the new air lock, the team should:
- Come out of the mine.
  - Perform gas tests in all dead ends and high places between the old and new Fresh Air Base to ensure that all gases have been flushed from the area.
  - Proceed inby the new Fresh Air Base to explore and let other workers check for any gases outby the new Fresh Air Base.
15. What is a Fresh Air Base (FAB)?
- The underground base of operations and starting point for rescue and recovery work into irrespirable atmospheres.
  - The underground command center of all rescue or recovery work.
  - The location for mine rescue teams to gather, plan and decide how to conduct a rescue or recovery operation.