

Choose the correct answer to each of the following questions:

1. Normal air contains approximately what percent oxygen?
 - a. 15%
 - b. 21%
 - c. 31%
 - d. 79%

2. Carbon monoxide is:
 - a. a gas found in all mining operations
 - b. a normal constituent of air
 - c. detected during a mine fire or explosion
 - d. a product of the breathing process

3. 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
 - d. gives off a suffocating odor

4. 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

5. 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
 - d. shaft mine with loose or broken adjoining strata

6. Mine rescue teams should alter existing ventilation:
 - a. Only when directed to do so by the Command Center.
 - b. When the team captain decides to do so.
 - c. When they encounter high concentrations of methane
 - d. When they encounter smoke.

7. "Pogo sticks" are devices that are used:
 - a. To test the roof and rib
 - b. To measure air velocity
 - c. To determine the direction of airflow.
 - d. As supports on which brattice cloth can be hung

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
 - d. None of the above

9. 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
 - d. Never enter such areas

10. A positive indication that a fire exists in a mine is:
 - a. Carbon monoxide and/or smoke in the return airways
 - b. Methane and carbon dioxide in the return airways
 - c. Lowered oxygen content in the return airways
 - d. A disruption in normal ventilation

11. The preferred type of hand-held extinguisher for teams is a dry chemical type that contains:
 - a. Sodium bicarbonate
 - b. Potassium chloride
 - c. Carbon tetrachloride
 - d. Monoammonium phosphate

12. If miners are missing after a fire or an explosion, what is critical information that your team will need during the briefing?
 - a. Production reports from previous shift
 - b. Section or sections where they were working
 - c. The responsible person list the day of the incident
 - d. What type of transportation does the miners use

13. What are the usual procedure when a body is encountered during exploration?
 - a. Mark location in mine
 - b. Remove personal belongings and put in safe place
 - c. Move body to a different known location for further transport
 - d. Wait on back-up team to arrive before doing anything

14. Discuss the task normally involved in recovering a mine or section of a mine following an explosion, fire, or other mine disaster.
 - a. Loading first cut of coal after event
 - b. Doing permissibility on equipment
 - c. Securing roof and ribs

d. Measure face depths for accurate measurements

15. Discuss how a mine rescue team could remove standing water from an unventilated area.

- a. Set a permissible pump in water
- b. Use a shielded cable to the pump only when conditions are less than favorable.
- c. Use a steel or equivalent discharge line from the pump to protect from possible rock falls
- d. If gas conditions permit, the team can pump the water using non-conducting suction lines and a pump set up in fresh air