

**2019 Southwestern Regional Mine Rescue Contest  
Ruidoso, NM  
Written Test – Field Competition**

Name \_\_\_\_\_ Company \_\_\_\_\_

Team Name \_\_\_\_\_ Contest Position No. \_\_\_\_\_

Team Member No. \_\_\_\_\_

**Directions: Use answer sheet & fill in completely.**

- 1) The team uses gas detectors to test the mine air:
- A) Every 10 feet;
  - B) Whenever they feel like it;
  - C) Repeatedly as they advance.
  - D) Just at the fresh air base.

Q#2) If you know the specific gravity of a gas, the team will know:

- A) Where it will be located in the mine;
- B) Where it should be tested for;
- C) Neither A or B;
- D) Both A & B.

Q#3) Physical properties of a gas can help identify it. A rotten egg odor could indicate:

- A) Carbon monoxide;
- B) Hydrogen sulfide;
- C) Nitrogen oxides;
- D) Oxygen.

Q#4) In Normal Air the oxygen concentration is around:

- A) 79%
- B) 31%
- C) 21%
- D) 16%

Q#5) A 15 percent (%) concentration of Oxygen will cause:

- A) Death;
- B) Dizziness and headaches;
- C) No effect;
- D) Loss of consciousness.

- Q#6) The first symptoms of carbon monoxide poisoning is:
- A) Slight tightening across your chest; and possibly a headache
  - B) Sore throat; and possibly a headache
  - C) Slight tightening across your forehead; and possibly a headache
  - D) Dizziness; and possibly a headache
- Q#7) To test for Carbon monoxide the detectors should be held:
- A) Above the head;
  - B) At eye level;
  - C) At chest level;
  - D) At your feet.
- Q#8) Malfunctioning electrical equipment producing arcs and sparks could cause:
- A) Elevated readings of Oxygen;
  - B) Elevated readings of Oxides of Nitrogen;
  - C) Elevated readings of Carbon Monoxide;
  - D) Elevated readings of Hydrogen Sulfide.
- Q#9) Hydrogen sulfide concentrations as low as \_\_\_ can lead to death.
- A) 0.11 percent;
  - B) 0.07 percent;
  - C) 0.02 percent;
  - D) 0.005 percent.
- Q#10) Smoke can be a problem during a mine rescue event due to it possibly being:
- A) An asphyxiant;
  - B) Explosive
  - C) Limits visibility;
  - D) All of the above.
- Q#11) A system of assigning priorities of medical treatment to injured persons is known as:
- A) Chain of command
  - B) Command Center
  - C) Rotation Schedule
  - D) Triage
- Q#12) During an event the team is under the direct supervision of the:
- A) Mine Clerk;
  - B) Outside Supervisor;
  - C) Team Captain;
  - D) Chief Engineer.

- Q#13) Depending on the nature of the emergency, arrangements for the following medical services should be made:
- A) Temporary hospital;
  - B) Temporary morgue;
  - C) Standby ambulances;
  - D) Both A & C
- Q#14) Existing ventilation can be altered by the team when:
- A) The team decides;
  - B) The team captain decides;
  - C) Directed by the command center;
  - D) They encounter smoke.
- Q#15) What two measurements are need to determine the quantity of the airflow:
- A) Velocity and direction;
  - B) Velocity and volume of airway;
  - C) Area of airway and direction;
  - D) Area of airway and velocity.
- Q#16) If a body is in cold water it will remain in almost perfect condition for \_\_\_\_\_
- A) 1 to 2 days
  - B) 2 to 3 days
  - C) 3 to 4 days
  - D) up to a week
- Q#17) Reasons for a Team Check include;
- A) To make sure each team member is fit and ready to continue
  - B) To make sure each team member's apparatus is functioning properly
  - C) To give the team a chance to rest
  - D) All of the above
- Q#18) To determine the safest route for entering the mine, the mine openings should be examined:
- A) As encountered underground by the team;
  - B) Before anyone goes underground;
  - C) After the first team has made entry;
  - D) All of the above.
- Q#19) Barefaced exploration should be conducted only when:
- A) The ventilation system is operating properly
  - B) Frequent gas tests indicate there is sufficient oxygen and no buildup of dangerous gases;
  - C) A backup team with apparatus is stationed outside the area.
  - D) All of the above

Q#20) Spatial disorientation can occur when traveling through:

- A) Bad ground;
- B) Heavy smoke;
- C) Water;
- D) Low roof.

Q#21) After arriving on the surface team debriefings are held to:

- A) Inform family members of developments;
- B) Inform debriefing official(s) of what you did, saw, and found;
- C) Inform news reporters of developments;
- D) All of the above.

Q#22) Method of firefighting where the fire area is sealed or filled with material is considered:

- A) Direct;
- B) Indirect;
- C) Neither of the above;
- D) Both of the above.

Q#23) Class C fires involve:

- A) Combustible metals;
- B) Combustible liquids;
- C) Electric equipment;
- D) Combustible materials.

Q#24) To best fight a fire using a dry chemical extinguisher you should direct the stream of dry chemical \_\_\_\_\_ flame:

- A) Directly at the
- B) About 6 inches ahead of the
- C) About 12 inches ahead of the
- D) Directly at the base of the

Q#25) A first priority condition to be treated when several survivors suffering from trauma have been located is:

- A) Multiple fractures;
- B) Mild hysteria;
- C) Chest injuries;
- D) Moderate Shock.

Q#26) During an emergency a refuge chamber is where

- A) The team preps to go under air.
- B) The fresh air base is located;
- C) Miners go if unable to reach the surface;
- D) The command center is located.

Q#27) To extricate a body is to:

- A) Disentangle it.
- B) Identify it;
- C) Map it;
- D) Report it.

Q#28) Once an airlock is constructed and after entering the barricade the opening should be:

- A) Guarded to prevent miners from exiting;
- B) Left open to dilute the air;
- C) Left open to allow easier access;
- D) Covered immediately.

Q#29) The main task of a mine rescue team during recovery operations is to:

- A) Account for all missing miners
- B) Bring all survivors to surface
- C) Reestablish ventilation
- D) All of the above

Q#30) During progressive ventilation as the work continues oxygen and gas levels \_\_\_\_\_.

- A) Can be ignored;
- B) Must be carefully monitored;
- C) Doesn't matter;
- D) A & C.

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- A#1) C) **Module 2**; Page 4; Paragraph 2.
- A#2) D) **Module 2**; Page 6; Paragraph 6.
- A#3) B) **Module 2**; Page 8; Paragraph 2.
- A#4) C) **Module 2**; Page 12; Paragraph 2.
- A#5) B) **Module 2**; Page 14; Paragraph 1.
- A#6) C) **Module 2**; Page 16; Paragraph 8-Health Hazards.
- A#7) C) **Module 2**; Page 17; Paragraph 2-Where Found.
- A#8) B) **Module 2**; Page 18; Paragraph 8-Meaning of Findings.
- A#9) B) **Module 2**; Page 19; Paragraph 12.
- A#10) D) **Module 2**; Page 26; Paragraph 2, 3, 5.
- A#11) D) Module 1; Page 14; Paragraph 9.
- A#12) C) Module 1; Page 6; Paragraph 4.
- A#13) D) Module 1; Page 5; Paragraph 1.
- A#14) C) Module 3; Page 3; Paragraph 4.
- A#15) D) Module 3; Page 19; Paragraph 6.
- A#16) B) Module 6; Page 10
- A#17) D) Module 4; Page 20
- A#18) B) Module 4; Page 5; Paragraph 5.
- A#19) D) Module 4; Page 6; Paragraph 2.
- A#20) B) Module 4; Page 25; Paragraph 4
- A#21) B) Module 4; Page 32; Paragraph 7
- A#22) B) Module 5; Page 17; Paragraph 1
- A#23) C) Module 5; Page 5; Paragraph 6
- A#24) B) Module 5; Page 7; Paragraph 3
- A#25) C) Module 6; Page 5; Paragraph 5
- A#26) C) Module 6; Page 14; Paragraph 6
- A#27) A) Module 6; Page 14; Paragraph 3
- A#28) D) Module 6; Page 5; Paragraph 2
- A#29) C) Module 7; Page 4; Paragraph 5
- A#30) B) Module 7; Page 8; Paragraph 1