

**SOUTH-WESTERN WYOMING  
MUTUAL AID  
UNIFIED MINE RESCUE CONTEST  
2021**

**WRITTEN TEST  
MINE RESCUE  
DAY 1**

**TEAM: \_\_\_\_\_**

**WORKING TEAM MEMBER NUMBER: \_\_\_\_\_**

**TEAM NUMBER DRAWN, DAY 1: \_\_\_\_\_**

**CIRCLE THE LETTER THAT CORRESPONDS TO THE CORRECT ANSWER. NOTE: THERE MAY BE MORE THAN ONE CORRECT ANSWER.**

- 1.) NORMAL AIR CONTAINS APPROXIMATELY WHAT PERCENT OF OXYGEN?
  - A. 15%
  - B. 21%
  - C. 79%
  
- 2.) OXIDES OF NITROGEN CAN OCCUR IN A MINE ATMOSPHERE:
  - A. WHEN CERTAIN EXPLOSIVES ARE USED.
  - B. WHEN DIESEL-POWERED EQUIPMENT IS BEING USED.
  - C. WHEN ELECTRIC EQUIPMENT PRODUCES ARCS OR SPARKS.
  
- 3.) THE MOST LIKELY SOURCE OF ETHANE, PROPANE, OR BUTANE IN A MINE IS:
  - A. USE OF DIESEL EQUIPMENT.
  - B. BATTERY CHARGING STATIONS.
  - C. LEAKAGE FROM ADJACENT GAS OR OIL WELLS.
  
- 4.) 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.
  
- 5.) DURING MINE RESCUE TEAM EXPLORATIONS, THE MAIN FAN:
  - A. SHOULD BE KEPT RUNNING.
  - B. SHOULD BE CONSTANTLY MONITORED.
  - C. BOTH OF THE ABOVE.

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- 6.) **AIR-LOCKS ARE USED BY MINE RESCUE TEAMS:**
- A. **TO ESTABLISH A FRESH AIR BASE.**
  - B. **WHEN OPENING A DOOR OR KNOCKING OUT A STOPPING/BULKHEAD BEHIND WHICH CONDITIONS ARE NOT DEFINITELY KNOWN.**
  - C. **BEFORE OPENING A BARRICADE IN BAD AIR BEHIND WHICH TRAPPED MINERS MAY BE LOCATED.**
- 7.) **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.**
- 8.) **IF AT ALL POSSIBLE, ENTRY INTO THE MINE SHOULD BE MADE ON:**
- A. **A RETURN AIRWAY.**
  - B. **AN INTAKE AIRWAY.**
  - C. **THE BELT ENTRY.**
- 9.) **IN ADVANCING A FRESH AIR BASE, AFTER YOU PUT UP THE NEW AIRLOCK, THE TEAM SHOULD:**
- A. **COME OUT OF THE MINE**
  - B. **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.**
  - C. **SHUT OFF AND REMOVE YOUR APPARATUS SINCE YOU ARE IN FRESH AIR AND WILL NO LONGER NEED IT.**
- 10.) **THE CAPTAIN SHOULD MARK THE DATE AND HIS OR HER INITIALS:**
- A. **EACH TIME THE TEAM STOPS FOR A REST.**
  - B. **EVERY 200 FEET.**
  - C. **ON ALL EXPLORED AREAS ( FACES, ENTRIES, CROSSCUTS, IMPASSABLE FALLS, BARRICADES, STOPPINGS, ETC. )**

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- 11.) 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. A DISRUPTION IN NORMAL VENTILATION.
- 12.) THE PREFERRED TYPE OF HAND-HELD FIRE EXTINGUISHER FOR TEAMS IS A DRY CHEMICAL TYPE THAT CONTAINS:  
A. SODIUM BICARBONATE.  
B. CARBON TETRACHLORIDE.  
C. MONOAMMONIUM PHOSPHATE.
- 13.) SEALS IN HIGH VOLATILE COAL SEAMS ARE OFTEN PLACED:  
A. 10 FEET FROM THE FIRE AREA.  
B. 100 FEET FROM THE FIRE AREA.  
C. 1,000 FEET FROM THE FIRE AREA.
- 14.) WHEN A TEAM LOCATES A BODY, THE USUAL PROCEDURE IS TO:  
A. OUTLINE THE BODY WITH CHALK OR PAINT ON THE FLOOR.  
B. REPORT LOCATION OF THE BODY TO THE COMMAND CENTER.  
C. CLEAN UP AS MUCH OF THE AREA AROUND THE BODY AS POSSIBLE FOR EASY RECOVERY.
- 15.) IF MINERS ARE MISSING AFTER A FIRE OR AN EXPLOSION, WHAT IS THE CRITICAL INFORMATION THAT YOUR TEAM WILL NEED DURING THE BRIEFING?  
A. NUMBER OF MISSING MINERS.  
B. SECTION OR SECTIONS WHERE THEY WERE WORKING.  
C. LIKELY PLACES WHERE MINERS WOULD ERECT BARRICADE.