2019 Missouri Regional Mine Rescue Contest
Rolla, MO
Written Test – Field Competition

Name____________________________ Company___________________________

Team Name_______________________ Contest Position No.__________________

Team Member No.__________________

Directions: Use answer sheet & fill in completely.

Q#1) One of the four main causes for oxygen deficiency in a mine are:
   A) Atmospheric pressure;
   B) Proper ventilation;
   C) A fire or explosion;
   D) None of the above.

Q#2) To isolate the fresh air base from the unexplored area beyond it a _____ should be built.
   A) Regulator;
   B) Check curtain;
   C) Airlock;
   D) Line brattice

Q#3) When building an airlock to access a refuge chamber it should be just large enough to:
   A) Fit 1 or 2 members of the team for entering;
   B) Fit the team & all necessary equipment
   C) Perform assessment and extraction
   D) Fit a mine fan for clearing the air.

Q#4) One of the most poisonous gases known is:
   A) Methane
   B) Oxygen
   C) Hydrogen Sulfide;
   D) Carbon Dioxide.

Q#5) A gas that can cause suffocation or choking is considered to be:
   A) Flammable;
   B) Asphyxiating;
   C) Insoluble;
   D) Soluble.
Q#6) Carbon Monoxide is a product of:

A) Incomplete combustion;  
B) Battery Charging;  
C) Breathing;  
D) All of the above.

Q#7) Recovery by progressive ventilation is very similar to:

A) Establishing a command center;  
B) Establishing a benching area;  
C) Advancing a fresh air base;  
D) Advancing the electrical power.

Q#8) Which two legs of the fire triangle are removed when using high expansion foam to contain and control a fire?

A) Fuel and Oxygen;  
B) Heat and Fuel;  
C) Oxygen and Heat;  
D) Oxygen and Chemical reaction.

Q#9) Solubility is the ability of a gas to be:

A) Dispersed by water;  
B) Concentrated in air;  
C) Dispersed by air;  
D) Dissolved in water.

Q#10) The explosive range of Hydrogen Sulfide is:

A) 0 to 4 percent;  
B) 4.3 to 45.5 percent;  
C) 4 to 45 percent;  
D) 75 to 99 percent.

Q#11) Where conditions no longer permit barefaced exploration a ______ is established.

A) Triage Area;  
B) Command Center;  
C) Fresh air base;  
D) Benching area.

Q#12) Which of the following should be emphasized as critical importance:

A) Establishing a laboratory to test air samples;  
B) Maintaining communications between the team and fresh air base;  
C) Setting up sleeping quarters;  
D) Talking to the press.
Q#13) All of the following should be done with ventilation controls during exploration of the ventilation system except:

A) Checked for what condition they are in;
B) Reported to command center;
C) Removed when impeding travel;
D) Altered upon orders from the command center.

Q#14) Atmospheric pressure is measured using a:

A) Gas Detector;
B) Thermometer;
C) Barometer;
D) Calibrator.

Q#15) On a mine map the symbol _ _ _ _ _ _ _ _ represents?

A) Track;
B) Line brattice;
C) Permanent bulkhead;
D) Conveyor belt.

Q#16) As the team proceeds the information relayed to the fresh air base is called:

A) Briefing;
B) Debriefing;
C) Progress reporting;
D) Tying in.

Q#17) Tiny amounts of Sulphur Dioxide will:

A) Have no affect at all;
B) Burn and irritate the skin;
C) Cause suffocating and choking;
D) Irritate the eyes and respiratory tract.

Q#18) Federal regulations require mines to have and post a _____ for notifying all the mine rescue teams that will be needed to assist in an event.

A) An Miner Representative’s letters;
B) Part 48(a) Training Plan;
C) Part 48(b) Training Plan;
Q#19) How quickly a gas will diffuse or disperse is dependent on:

A) The temperature;
B) The specific gravity of the gas;
C) The pressure;
D) All of the above.

Q#20) Class A fires involve:

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

Q#21) On a mine map the symbol represents?

A) Mine door;
B) Check curtain;
C) Man door;
D) Temporary bulkhead.

Q#22) When a team locates a body they should:

A) Ignore it & keep moving;
B) Mark it on the map;
C) Report it to Command center;
D) Both B and C.

Q#23) Duties of the mine’s safety director could include the following except:

A) Obtain maps or adjoining mines;
B) Assemble mine rescue teams and first aid crews;
C) Provide facilities and equipment for working on breathing apparatus;
D) Assign personnel to track mine rescue equipment.

Q#24) Unmanageable fear or emotional excess is called:

A) Hypothermia;
B) Hyperthermia;
C) Hysteria;
D) Hysteresis.

Q#25) Carbon monoxide has an explosive range in normal air of:

A) 75 to 100 percent;
B) 12.5 to 74.2 percent;
C) 0 to 12 percent.
D) All of the above.
Q#26) It is generally recommended that teams use multi-purpose dry chemical extinguishers that contain monoammonium phosphate because they are:

A) Easy to carry;
B) Light weight;
C) Effective on multiple classes of fire;
D) Easy seen.

Q#27) The headquarters for the rescue and recovery operations are located in the:

A) Fresh Air Base;
B) Command Center;
C) Bench Area;
D) Triage Area.

Q#28) Unsealing a fire area:

A) Can be done whenever needed;
B) Requires electrical power;
C) Requires careful planning;
D) Requires no gas tests.

Q#29) Prior to a mine rescue team passing through a door or bulkhead behind which conditions are not definitely known, they should:

A) Never enter such areas;
B) Open the door or bulkhead and wait at least 10 minutes to diffuse any harmful gases;
C) Ask the fresh air base to send in the backup team;
D) Erect a temporary bulkhead outside it.

Q#30) When establishing priorities for triage, deep shock is considered a:

A) Low priority condition;
B) Third priority condition;
C) Second priority condition;
D) First priority condition.
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A#1)  C) Module 2; Page 14; Paragraph 2.
A#2)  C) Module 4; Page 7; Paragraph 3
A#3)  B) Module 6; Page 5; First Sentence.
A#4)  C) Module 2; Page 19; Paragraph 12.
A#5)  B) Module 2; Page 10; Paragraph 2.
A#6)  A) Module 2; Page 16; Paragraph 10-Cause or Origin.
A#7)  C) Module 7; Page 8; Paragraph 2
A#8)  C) Module 5; Page 10; Paragraph 4
A#9)  D) Module 2; Page 7; Paragraph 8.
A#10)  B) Module 2; Page 19; Paragraph 11-Explosive Range and Flammability.
A#11)  C) Module 4; Page 6; Paragraph 6
A#12)  B) Module 1; Page 6; Paragraph 7.
A#13)  C) Module 3; Page 3; Paragraph 4.
A#14)  C) Module 2; Page 5; Paragraph 6.
A#15)  B) Module 3; Page 7; Commonly used Mine Map symbols.
A#16)  C) Module 4; Page 53; Paragraph 7
A#17)  D) Module 2; Page 21; Paragraph -Health Hazards
A#18)  D) Module 1; Page 3; Paragraph 2.
A#19)  D) Module 2; Page 7; Paragraph 4.
A#20)  D) Module 5; Page 5; Paragraph 4
A#21)  C) Module 3; Page 7; Commonly used Mine Map symbols.
A#22)  D) Module 6; Page 8; Paragraph 5
A#23)  A) Module 1; Page 9; Paragraph 1.
A#24)  C) Module 6; Page 14; Paragraph 4
A#25)  B) Module 2; Page 16; Paragraph 4-Explosive Range and Flammability.
A#26)  C) Module 5; Page 6; Paragraph 6
A#27)  B) Module 1; Page 14; Paragraph 4.
A#28)  C) Module 7; Page 4; Paragraph 8
A#29)  D) Module 4; Page 26; Paragraph 3
A#30)  D) Module 6; Page 5; Paragraph 7