

MASTER

2010 North Central Regional Mine Rescue Contest Team Trainer Examination

1) Oxygen is:

- a) Lighter than air.
- b) Heavier than air.
- c) Less dense than air.
- d) Equal in density to air.

answer : b)

source - MSHA 3027 Mine Rescue Team Training p. 2-51 (2008 edition)

2) A mine rescue station that provides an environment to assure equipment readiness must be provided at the mine site?

- a) True
- b) False

answer: b) False

source - 30 C.F.R. 49.5

3) The required minimum number and type of operational gas detectors that must be available to a MNM mine rescue team is?

- a) 2 equipped with CO, CO₂, O₂ and LEL
- b) 4 equipped with CO, NO₂, O₂ and LEL
- c) 2 electronic detectors and 2 Dragers equipped with CO, NO, O₂ and Methane
- d) 4 detectors capable of testing for each gas that may be encountered

answer: d)

source - 30 C.F.R. 49.6 (a)(6)

4) Non-sparking tools are always required for mine rescue?

- a) True
- b) False

answer: b) False

source - MSHA 3027 Mine Rescue Team Training p. 4-15 (2008 edition)

- 5) Team checks accomplish the following?
- a) To make sure each team member is fit and ready to continue, to make sure each team member's apparatus is functioning properly, and to give the team a chance to rest.
 - b) To coordinate with the command center to relay updated information on the progress, and be informed of the progress of other teams that are underground.
 - c) To find out the O₂ pressure of each team members apparatus, and confer with the fresh air base on the best options to continue systematic exploration.
 - d) Both A and C

answer: a)

source MSHA 3027 Mine Rescue Team Training page 4-20 (2008 edition)

- 6) Systematic exploration requires a team to tie all crosscuts together before advancing (the 2 + 3 rule) mainly to?
- a) Insure the accuracy of a team's map.
 - b) Prevent a team from advancing past areas where survivors could have sought refuge.
 - c) Prevent a team from advancing forward of an unexplored area.
 - d) b & c.

answer: c)

source - MSHA 3027 Mine Rescue Team Training page 4-24 (2008 edition)

- 7) Bare faced exploration is never permitted underground in metal and non-metal mines?
- a) True
 - b) False

answer: False

source - MSHA 3027 Mine Rescue Team Training page 4-6 (2008 edition)

- 8) Psychological trauma can result from a physical injury?
- a) True
 - b) False

answer: a) True

source - MSHA 3027 Mine Rescue Team Training page 6-14 (2008 edition)

9) A new mine rescue team member must have their physical within how many days prior to their initial training?

- a) 30
- b) 45
- c) 60
- d) 120

answer: c)

source - 30 CFR 49.7(a)

10) As mine rescue teams arrive at a site, a bench area with _____ should be provided so teams can clean, test and prepare their apparatus for use.

- a) tools
- b) water
- c) rest areas
- d) food

answer: b)

source - MSHA 3027 Mine Rescue Team Training page 1-4 (2008 edition)

11) Mine rescue team gas detectors are required to detect carbon monoxide up to the maximum concentration the team expects to encounter underground.

- a) True
- b) False

answer: b) False

source - 30 C.F.R. 49.6(a)(6)

12) In a MNM mine rescue contest, a team may not break a stopping to enter an area.

- a) True
- b) False

answer: False

source - 2010 MNM Nat'l Contest Rules p. 23

13) Mine rescue stations shall be no more than ____ hours ground travel to the mines they are associated with?

- a) 1 hour
- b) 2 hours
- c) 4 hours
- d) 8 hours

answer: b) 2 hours

source - 30 C.F.R. 49.2(f)

14) When working a MNM mine rescue contest field problem, after a team attempts to make a change such as barring loose, extinguishing a fire or making a ventilation change, how long should the team wait to see if the placards change in order to determine if their change was effective?

- a) 10 seconds
- b) 15 seconds
- c) 30 seconds
- d) 1 minute

answer: b) 15 seconds

source - 2010 MNM Nat'l Contest Rules p. 15

15) When working a MNM mine rescue contest field problem, a team must demonstrate proficiency in gas testing at strategic locations. The gases that will be tested are?

- a) O₂, CH₄, CO, NO₂
- b) O₂, CO₂, NO₂, LEL
- c) CO, LEL, CO₂, O₂
- d) O₂, LEL, CO₂, NO₂

answer: a)

source - 2010 MNM Nat'l Contest Rules p. 26-27

- 16) In a MNM mine rescue contest, if a placard says, "CAVED IMPASSABLE," it means?
- a) Both persons and airflow can pass through the caved area.
 - b) Air can flow across the caved area, but miners or mining equipment cannot pass through the caved area.
 - c) The team can clear the caved material, given sufficient time.
 - d) Fallen material only restricts vehicle passage.

answer: b)

source - 2010 MNM Nat'l Contest Rules p. 98

- 17) In a MNM mine rescue contest, a small crack in rock strata from which gas escapes is identified as a?
- a) Surge
 - b) Fault
 - c) Feeder
 - d) Cast

Answer: d)

source - 2010 MNM Nat'l Contest Rules p. 99

- 18) An air lock?
- a) Provides a respirable atmosphere for miners in an emergency.
 - b) Is an area in a mine closed at both ends by doors, or by bulkheads with doors or flaps in them.
 - c) Prevents mixing of different atmospheres while still permitting miners to enter and exit.
 - d) Both b & c

answer: d)

source - MSHA 3027 Mine Rescue Team Training p. 4-53 (2008 edition)

- 19) Increased temperature can cause mine gases to?
- a) Expand and diffuse more quickly
 - b) Contract and diffuse less quickly
 - c) Contract and diffuse more quickly
 - d) Expand and diffuse less quickly

answer: a)

source - MSHA 3027 Mine Rescue Team Training pages 2-5 and 2-6 (2008 edition)

- 20) Sulfur dioxide and hydrogen sulfide are examples of water-soluble gases, meaning they can be released from water?
- a) True
 - b) False

answer: a) true

source - MSHA 3027 Mine Rescue Team Training page 2-7 (2008 edition)

- 21) Light gases such as hydrogen diffuse more quickly than heavy gases like sulfur dioxide
- a) True
 - b) False

answer: a) True

source - MSHA 3027 Mine Rescue Team Training page 2-7 (2008 edition)

- 22) In the "Fire Triangle," a combustion chain reaction is not possible if one of the legs of the "Fire Triangle" is missing.
- a) True
 - b) False

answer: b) True

source - MSHA 3027 Mine Rescue Team Training page 5-4 (2008 edition)

- 23) Oxides of nitrogen can be produced by sparking or electrical arcing?
- a) True
 - b) False

answer: a) true

source - MSHA 3027 Mine Rescue Team Training page 2-18 (2008 edition)

- 24) Natural ventilation occurs due to?
- a) External wind
 - b) Differences in air pressure caused by temperature differences between surface and underground
 - c) Mining equipment moving through mine workings
 - d) Both b & c

answer: b)

source - MSHA 3027 Mine Rescue Team Training page 3-5 (2008 edition)

25) A smoke tube test is used to determine the direction and flow of ventilation below?

- a) 600 feet per minute
- b) 120 feet per minute
- c) 900 feet per minute
- d) 180 feet per minute

answer: b)

source - MSHA 3027 Mine Rescue Team Training page 3-18 (2008 edition)

26) No team shall enter a barricade with persons behind without flushing the air if the O₂ reading is?

- a) 21% or less
- b) 17% or less
- c) 19% or less
- d) None of the above

answer: d)

source - 2010 MNM Nat'l Contest Rules p. 23

27) Once the team has counted off on their final retreat from the mine, the team can no longer make any changes to either the team map or the fresh air base map?

- a) True
- b) False

answer: a) True

source - 2010 MNM Nat'l Contest Rules p. 25

28) In a MNM mine rescue contest, the stretcher weight test is required as part of the technician team event?

- a) True
- b) False

answer: b) False

source - 2010 MNM Nat'l Contest Rules p. 53

29) In a MNM mine rescue contest, cell phones are permitted in team isolation?

- a) True
- b) False

answer: b) False

source - 2010 MNM Nat'l Contest Rules p. 5

30) Class B fires are fires that involve?

- a) Metals like magnesium
- b) Electrical fires
- c) Flammable or combustible liquids
- d) Ordinary combustibles like paper or wood

answer: c)

source - MSHA 3027 Mine Rescue Team Training page 5-50 (2008 edition)