**2015 Tri State Ohio Valley Mine Rescue**

**NMRA Post # 6**

**Bio-Pak 240 R Written Examination**

1. Oxygen will \_\_\_\_ cause materials to \_\_\_\_\_\_\_ without the presence of an ignition source.

always, ignite not, ignite sometimes, burn

1. A \_\_\_\_\_\_\_ gas may cause cylinder corrosion.

Inert explosive foreign

1. Always \_\_\_\_\_\_ for a current \_\_\_\_\_\_\_\_ test date.

look, manufacturers check, hydrostatic check, manufacturers

1. Replace the battery when the low battery alarm has activated, after \_\_\_\_ \_\_\_\_\_ of use or every 6 months whichever comes first.

100, hours 200, days 200, hours

1. The usual scrubber consists of \_\_\_\_\_\_\_\_\_ and a \_\_\_\_\_\_ core. Do not reuse previously used CO2 absorbent cartridges or the rubber gaskets.

pumice, paper limestone, paper limestone, plastic

1. Allow all components to remain \_\_\_\_\_\_ by the cleaning solution a minimum of 10 minutes.

wetted moist soaked

1. Apply anti-fog solution or \_\_\_\_\_ to both halves of the \_\_\_\_\_\_\_ before every use to ensure mask lens do not scratch.

water, felt water, chamois soap, chamois

1. Do not expose opened CO2 scrubber cartridges to \_\_\_\_\_\_\_ air for more than 20 minutes.

outside dry ambient

1. Install each CO2 canister into the SCBA so that the \_\_\_\_ end cap is \_\_\_\_\_\_\_ on the top side of the canister.

red, looking blue, visible red, visible

1. A low battery alarm is indicated by a Red, Green, Blue light sequence followed by a \_\_\_\_\_ alarm \_\_\_\_\_ any time the battery will not complete a four-hour mission.

momentary, beep short, beep short, chirp

1. If a quick Turn-Around \_\_\_\_\_\_\_\_\_\_\_ has been performed, the SCBA will function and is designed to work wet.

Cleaning Maintenance Testing

1. The RMS will automatically \_\_\_\_\_ \_\_\_\_\_\_ once the system pressure has dropped below 25 psig.

power, down turn, off power, up

1. \_\_\_\_\_\_-\_\_\_\_ and Dow-111 are the only o-ring lubricants that shall be utilized on the SCBA components.

Cristo-Grease Silicone-Lube Cristo-Lube

1. There are \_\_\_ user serviceable components on the oxygen cylinder assembly

two no one

1. High breathing \_\_\_\_\_\_\_\_ during \_\_\_\_\_\_\_\_\_ could be caused by the facepiece exhalation valve sticking closed.

rates, inhalation rates, exhalation resistance, exhalation

1. High breathing resistance during inhalation could be caused by the facepiece \_\_\_\_\_\_\_\_\_ check valve sticking closed.

inhalation exhalation breathing

1. High breathing \_\_\_\_\_\_\_\_\_\_ during \_\_\_\_\_\_\_\_\_\_ could be caused by the demand valve in breathing chamber has failed.

resistance, exhalation resistance, inhalation rates, breathing

1. BioPak weight, ready to use is \_\_\_ pounds.

43 34 36

1. BioPak Carbon Dioxide Scrubber is Dual, single use \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ cartridges, non-dusting, non-channeling, non-hazardous.

Limestone Pellets Calcium Hydroxide Calcium Pellets

1. The CO2 Scrubber should be replaced after \_\_\_ use.

every one 1

**Tri State Ohio Valley Mine Rescue Contest**

**Bio-Pak 240 R**

**Identification of Parts Test of the Written Exam**



#7

# 1

#12

21. Identify # 1 A. Upper Housing Shell

 B. Lower Hosing Shell

 C. Lower Case Shell

22. Identify # 7 A. Shell Spacer

 B. Aluminum Spacer

 C. Vent Spacer

23. Identify # 12 A. Shell Foam Spacer

 B. Latch Foam Pad

 C. Moisture Pads



24. Identify # 1 A. Bypass Supply Line

 B. Bypass Feed Tube

 C. Bypass Oxygen Line

25. Identify # 3 A. Oxygen Feed Tube

 B. Oxygen Feed Line

 C. Oxygen Feed Branch

26. Identify # 9 A. Oxygen Regulator Gage

 B. Air Regulator Monitor

 C. Oxygen Regulator Assembly



27. Identify # 2 A. Oxygen Supply Line

 B. Demand Feed Tube

 C. Oxygen Feed Tube

28. Identify # 9 A. Demand Add Line

 B. Demand Add Fitting

 C. Demand Add Fixture

29. Identify # 14 A. Breathing Diaphragm

 B. Flexible Shell

 C. Flexible Diaphragm



30. Identify # 9 A. AV 3500 Facepiece Adapter

 B. AV 3500 Facepiece Connector

 C. AV 3500 Hose Adapter

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**NMRA Post # 6**

**Bio-Pak 240 R Written Examination**

**ANSWERS**

1. Oxygen will \_\_\_\_ cause materials to \_\_\_\_\_\_\_ without the presence of an ignition source.

always, ignite not, ignite sometimes, burn (SF #9)

1. A \_\_\_\_\_\_\_ gas may cause cylinder corrosion. (SF#14)

Inert explosive foreign

1. Always \_\_\_\_\_\_ for a current \_\_\_\_\_\_\_\_ test date.

look, manufacturers check, hydrostatic check, manufacturers (SF # 15)

1. Replace the battery when the low battery alarm has activated, after \_\_\_\_ \_\_\_\_\_ of use or every 6 months whichever comes first.

100, hours 200, days 200, hours (SF # 20)

1. The usual scrubber consists of \_\_\_\_\_\_\_\_\_ and a \_\_\_\_\_\_ core. Do not reuse previously used CO2 absorbent cartridges or the rubber gaskets.

pumice, paper limestone, paper limestone, plastic (SF # 25)

1. Allow all components to remain \_\_\_\_\_\_ by the cleaning solution a minimum of 10 minutes.

wetted moist soaked (SF # 31)

1. Apply anti-fog solution or \_\_\_\_\_ to both halves of the \_\_\_\_\_\_\_ before every use to ensure mask lens do not scratch.

water, felt water, chamois soap, chamois (SF # 35)

1. Do not expose opened CO2 scrubber cartridges to \_\_\_\_\_\_\_ air for more than 20 minutes.

outside dry ambient (SF # 39)

1. Install each CO2 canister into the SCBA so that the \_\_\_\_ end cap is \_\_\_\_\_\_\_ on the top side of the canister.

red, looking blue, visible red, visible (SF # 41)

1. A low battery alarm is indicated by a Red, Green, Blue light sequence followed by a \_\_\_\_\_ alarm \_\_\_\_\_ any time the battery will not complete a four-hour mission.

momentary, beep short, beep short, chirp (SF # 47)

1. If a quick Turn-Around \_\_\_\_\_\_\_\_\_\_\_ has been performed, the SCBA will function and is designed to work wet.

Cleaning Maintenance Testing (SF # 51)

1. The RMS will automatically \_\_\_\_\_ \_\_\_\_\_\_ once the system pressure has dropped below 25 psig.

power, down turn, off power, up (SF # 54)

1. \_\_\_\_\_\_-\_\_\_\_ and Dow-111 are the only o-ring lubricants that shall be utilized on the SCBA components.

Cristo-Grease Silicone-Lube Cristo-Lube (SF # 56)

1. There are \_\_\_ user serviceable components on the oxygen cylinder assembly

two no one (SF#58)

1. High breathing \_\_\_\_\_\_\_\_ during \_\_\_\_\_\_\_\_\_ could be caused by the facepiece exhalation valve sticking closed.

rates, inhalation rates, exhalation resistance, exhalation(SF 68)

1. High breathing resistance during inhalation could be caused by the facepiece \_\_\_\_\_\_\_\_\_ check valve sticking closed.

inhalation exhalation breathing (SF # 71)

1. High breathing \_\_\_\_\_\_\_\_\_\_ during \_\_\_\_\_\_\_\_\_\_ could be caused by the demand valve in breathing chamber has failed.

resistance, exhalation resistance, inhalation rates, breathing(SF73)

1. BioPak weight, ready to use is \_\_\_ pounds.

43 34 36 (SF # 76)

1. BioPak Carbon Dioxide Scrubber is Dual, single use \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ cartridges, non-dusting, non-channeling, non-hazardous.

Limestone Pellets Calcium Hydroxide Calcium Pellets (SF # 78)

1. The CO2 Scrubber should be replaced after \_\_\_ use.

every multiple 1 (SF # 85)

**Tri State Ohio Valley Mine Rescue Contest**

**Bio-Pak 240 R**

**Identification of Parts Test of the Written Exam**



#7

# 1

#12

21. Identify # 1 A. Upper Housing Shell

 B. Lower Hosing Shell

 C. Lower Case Shell

22. Identify # 7 A. Shell Spacer

 B. Aluminum Spacer

 C. Vent Spacer

23. Identify # 12 A. Shell Foam Spacer

 B. Latch Foam Pad

 C. Moisture Pads



24. Identify # 1 A. Bypass Supply Line

 B. Bypass Feed Tube

 C. Bypass Oxygen Line

25. Identify # 3 A. Oxygen Feed Tube

 B. Oxygen Feed Line

 C. Oxygen Feed Branch

26. Identify # 9 A. Oxygen Regulator Gage

 B. Air Regulator Monitor

 C. Oxygen Regulator Assembly



27. Identify # 2 A. Oxygen Supply Line

 B. Demand Feed Tube

 C. Oxygen Feed Tube

28. Identify # 9 A. Demand Add Line

 B. Demand Add Fitting

 C. Demand Add Fixture

29. Identify # 14 A. Breathing Diaphragm

 B. Flexible Shell

 C. Flexible Diaphragm



30. Identify # 9 A. AV 3500 Facepiece Adapter

 B. AV 3500 Facepiece Connector

 C. AV 3500 Hose Adapter