

Test Answers MX6
2014 Dalton GA

Name_____Company_____

Team Name_____Contest Position Number_____

Team Member Number_____

Directions: circle the letter preceding the correct answer to each of the following questions: Circle only one answer per question

1. When the barometer falls, this means:
 - a. **Gases will diffuse more quickly [MSHA 3027 (IG6) 2008, pg.2-6]**
 - b. The atmospheric pressure is rising
 - c. It is much easier for explosive gases to build up
 - d. Gases are squeezed into a smaller area

2. Methane is most explosive at what range
 - a. 5% to 15% with at least 12.1% oxygen
 - b. 9.5% to 12.5% with at least 12.1% oxygen
 - c. 5% to 10%
 - d. **9.5% to 10% [MSHA 3027 (IG6) 2008, pg.2-22]**

3. Electrical malfunctions will not produce oxides of nitrogen
 - a. True
 - b. **False [MSHA 3027 (IG6) 2008, pg.2-18]**

4. Usually, the measured distance using a smoke tube is _____feet.
 - a. 100
 - b. 50
 - c. 75
 - d. **25 [MSHA 3027 (IG6) 2008, pg.3-18]**

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5. Asphyxiating gases:
- Can, in all cases, be tasted, smelled, or seen
 - Cause suffocation [MSHA 3027 (IG6) 2008, pg.2-10]**
 - Cause the metal parts of an apparatus to corrode
 - Do not produce an oxygen deficient atmosphere
6. The explosive range of hydrogen is _____ to 74.2%.
- 7%
 - 5%
 - 4% [MSHA 3027 (IG6) 2008, pg.2-18]**
 - 3%
7. An anemometer is a small windmill device with a mechanical counter that measures air velocities of over _____ feet per minute.
- 100
 - 110
 - 120 [MSHA 3027 (IG6) 2008, pg.3-16]**
 - None of the above
8. Mine ventilation air always moves from _____
- Neutral pressure regions to atmospheric pressure regions.
 - Low pressure regions to high pressure regions.
 - High pressure regions to low pressure regions [MSHA 3027 (IG6) 2008, pg.3-5].**
 - Balanced pressure regions to unbalanced pressure regions.
9. A partially opened mine door cannot be used as a regulator.
- True
 - False [MSHA 3027 (IG6) 2008, pg.3-12]**

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10. The most accurate measurement of air velocity using a smoke tube is obtained by take readings at quarter points within the airway.
a. **True** [MSHA 3027 (IG6) 2008, pg.3-18]
b. False
11. Oxygen deficient atmospheres may cause combustible gas readings to be higher than actual concentrations.
a. True
b. **False** [MX6 iBrid Operations Guide Rev.3 page 3]
12. Oxygen enriched atmospheres may cause combustible gas readings to be lower than actual concentrations.
a. True
b. **False** [MX6 iBrid Operations Guide Rev.3 page 3]
13. The battery icon at >50% is what color?
a. **Blue** [MX6 iBrid Operations Guide Rev.3 page 11]
b. Yellow
c. Red
14. When calibrated using methane concentrations less than 5% of volume, reading accuracy of the infrared methane sensor may not be guaranteed to be better than _____?
a. +/- 15%
b. **+/- 20%** [MX6 iBrid Operations Guide Rev.3 page 5]
c. +/- 25%
15. To power up the MX6 instrument, locate, press and hold the center [ENTER] navigation button for at least 2 seconds.
a. True
b. **False** [MX6 iBrid Operations Guide Rev.3 page 13]

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16. The Normal Operations Menu has a _____ background and the Configuration Menu has a _____ background.
a. white, blue
b. white, red
c. white, yellow [MX6 iBrid Operations Guide Rev.3 page 8]
17. If all three alarms are disabled, "ALARMS OFF!" is displayed at the bottom of the normal readings screen in black.
a. True
b. False [MX6 iBrid Operations Guide Rev.3 page 23]
18. The user has _____ minutes to apply gas before the calibration times out.
a. two
b. three
c. five [MX6 iBrid Operations Guide Rev.3 page 19]
19. A high-level alarm has an audio indicator that beeps with a high frequency and visual alarm LEDs that are pulsed with short delay.
a. True [MX6 iBrid Operations Guide Rev.3 page 7]
b. False
20. _____ error events for the instrument are recorded into a FIFO queue in non-volatile memory and are time stamped.
a. Fifteen [MX6 iBrid Operations Guide Rev.3 page 8]
b. Twenty
c. Twenty-five
21. The infrared methane sensor is not to be used for methane concentrations below 5% in air.
a. True [MX6 iBrid Operations Guide Rev.3 page 5]
b. False

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22. Verify the calibration of the combustible gas sensor after any incident where the combustible gas content has caused the instrument to display an over-range condition.
a. **True [MX6 iBrid Operations Guide Rev.3 page 3]**
b. False
23. The recommended calibration gas for infrared methane sensor calibration is 99% volume methane.
a. **True [MX6 iBrid Operations Guide Rev.3 page 5]**
b. False
24. A bump test is intended to be a measure of the instruments accuracy.
a. True
b. **False [MX6 iBrid Operations Guide Rev.3 page 17]**
25. Sudden changes in atmospheric pressure may cause temporary fluctuations in the oxygen reading.
a. **True [MX6 iBrid Operations Guide Rev.3 page 3]**
b. False
26. The sensor readings are displayed as solid _____ numerals during normal operation, and solid _____ numerals during alarm conditions.
a. black, black
b. **black, red [MX6 iBrid Operations Guide Rev.3 page 14]**
c. red, red
27. Access to the Configuration Menu cannot be protected using a security password.
a. True
b. **False [MX6 iBrid Operations Guide Rev.3 page 16]**

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28. Silicone compound vapors or other known contaminants may affect the combustible gas sensor and cause readings of combustible gas to be lower than actual gas concentrations.
a. True [MX6 iBrid Operations Guide Rev.3 page 3]
b. False
29. For calibration, gas should be applied at a flow rate of _____.
a. 0.5 lpm [MX6 iBrid Operations Guide Rev.3 page 19]
b. 1.0 lpm
c. 1.5 lpm
30. There are only two different cradles are available for use with the MX6 multi-gas monitor.
a. True
b. False [MX6 iBrid Operations Guide Rev.3 page 7]