

12 questions and answers for the iTX and MX6 multi-gas instrument

1. Oxygen deficient atmospheres may cause readings of combustible (methane) gas to be higher than actual concentrations.

A. True

B. False answer on page 3 of iTX (rev 6)-1st item; MX6 (rev 3)-6th item

2. Silica can affect the combustible gas sensor and may cause readings to be lower than actual gas concentrations.

A. True

B. False answer on page 3 iTX (rev 6)-4th item; and MX6 (rev 3)-9th item) states "silicone compounds" not silica, which is sand.

3. Sudden changes in atmospheric pressure will cause temporary fluctuations in the oxygen reading.

A. True answer in operation guide on iTX page 3 and MX6 page 3.

B. False

4. The manufacturer recommends that a functional (bump) test be performed on the gas instrument after each day's use.

A. True

B. False "Industrial Scientific recommends that a functional ("bump") test be performed on every instrument prior to each days use." page 23 iTX (rev 6) manual. And on page 17 of the MX6 iBrid manual (rev 3)

5. The iTX and the MX6 ibrid uses a hydrogen 2-ion battery.

A. True

B. False answer page 2523 iTX (rev 6) manual, and on page 10 of the MX6 iBrid manual (rev 3).

6. When the battery life is nearing its end, the following occurs.
(answer the question for your gas instrument)

For the iTX, with a minimum of 30 minutes of battery life, the unit will emit a periodic tone.	For the MX6 iBrid, if the remaining runtime is less than 30 minutes, "Low Battery" is displayed.
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A. True

B. False iTX on page 27 of manual (15 minutes), rev6 & for MX6 on page 11 of manual rev 3 (10 minutes)

7. Marginal calibration occurs if the span reserve is between _____ of the applied (calibration) gas value\concentration.

A. 30% – 50%

B. 40% - 60%

C. 50% – 70% iTX on page 25, rev 6 & slide 30 and MX6 on slide 14 of on-line Calibration Training Tutorial Video

D. 70% –80%

E. None of the above

8. While in the normal operational mode the screen on your instrument shows the battery at the _____ of the screen.

A. Top middle

B. Top right

C. Bottom middle

D. Bottom right

E. None of the above iTX page 8 gas reading mode, MX6 manual page 11

9. The oxygen sensor will calibrate to room (clean) air at _____

A. 19.0%

B. 20.0%

C. 20.9% answer in manual on page 13, 1st sentence in the 1st NOTE stating “calibration should be performed in clean air containing 20.95%” and on Slide 8 of iTX on-line Calibration Training Video states "20.9%".

D. 100.0%

10. The low operating temperature for the iTX/MX6 is _____.

A. -0 °C (32°F)

B. -10 °C (14°F)

C. -20°C (-4°F) On-line Module 4-4 iTx Calibration; On-line Module 4-2 MX6

D. -25°C (-13°F)

13 questions and answers from MSHA Publication 3027 Modules 2 and 3: (Revised 2008)

11. It is important to “control” and “course” air underground so that it reaches only the area miners are working.

A. True

B. False (False, on page 3-9, 1st paragraph states “It is important to “control” and “course” air underground so that it reaches all areas of the mine.)

13. A person can tolerate concentrations of ½ of 1 percent (500 ppm) CO₂ over an 8-hour daily period without harmful effects.

A. True page 2.9

B. False

14. It is much easier for concentrations of explosive gases to build up when the barometric pressure is high.

- A. True page 2-6
- B. False

16. Air containing 4 to 74.2 percent hydrogen will explode even when there is as little as 5 percent oxygen present.

- A. True page 2-18
- B. False

13. Porous stoppings such as concrete block stoppings are usually plastered on _____ to reduce air leakage.

- A. low-pressure side
- B. high-pressure side (answer on page 3-8, 5th paragraph)
- C. both sides
- D. none of the above

14. Firefighting with water or foam can not produce hydrogen.

- A. True
- B. False on page 2-19, Meanings of Findings states it can)

15. Which of the following is not a property of Carbon Dioxide?

- A. Carbon Dioxide will neither burn or explode
- B. Carbon Dioxide has a specific gravity of 1.5 (rounded to the nearest tenth)
- C. Carbon Dioxide is colorless and odorless
- D. In normal air Carbon Dioxide is about 0.3 percent on page 2-15 states "CO is 0.03 percent"
- E. All of the above

16. Ethane is often detected along with methane in mines, and like methane is much lighter than air.

- A. True
- B. False specific gravity for Ethane is 1.0493 (page 2-23) and for Methane is 0.5545 (page 2-22) and air is 1 (page 2-6)

17. Smoke is not normally considered to be an asphyxiant.

- A. True page 2-26, 2nd paragraph
- B. False

18. A disrupted ventilation system could result in an oxygen-rich atmosphere.

- A. True
- B. False (False on page 2-3 states "could result in an oxygen-deficient atmosphere")

19. It is much easier for concentrations of explosive gases to build up when the barometric pressure is high.

A. True (page 2-6)

B. False

20. If the oxygen content of the air drops as low as 14 percent, a person may lose consciousness.

A. True

B. False (page 2-14 states "If the oxygen content of the air you're breathing drops as low as 9 percent, you may lose consciousness.")