

Bubble in the correct answer on the scantron answer form.

1. Atmospheric pressure and temperature are important factors because they:
 - a. affect the rate of diffusion of a gas by ventilation
 - b. can cause false readings on gas detection instruments
 - c. lower oxygen content in the mine

2. Two gases that are highly soluble in water are:
 - a. methane and acetylene
 - b. hydrogen sulfide and hydrogen
 - c. hydrogen sulfide and sulfur dioxide

3. Oxides of nitrogen can occur in a mine atmosphere:
 - a. when certain explosives are used
 - b. when diesel-powered equipment is being used
 - c. all of the above

4. Air locks are used by mine rescue teams:
 - a. To establish a Fresh Air Base.
 - b. To sweep air across a working face or barricade
 - c. All of the above.

5. A "feeder" is defined as:
 - a. Conveyor belt beneath longwall cutter heads.
 - b. Small cracks through which methane or other gas escapes from coal.
 - c. Sudden emission of methane from coal seam or surrounding rock.

6. A "box check" is defined as:
 - a. Stopping with an opening in it to allow a conveyor to pass through, used to prevent intake or return air from flowing across the conveyor.
 - b. Brattice cloth, canvas, or plastic curtain used to deflect or direct air into a working place. Constructed in a manner to allow the passage of miners and machinery.
 - c. The passage through which fresh air is drawn or forced into a mine or to a section of the mine.

7. Accumulation of hydrogen in the mine atmosphere are dangerous because hydrogen:
 - a. Is highly toxic
 - b. Is highly soluble in water
 - c. Is highly explosive

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8. "Return" is defined as:
- Toward the shaft or entrance from a given point.
 - The air course along which the ventilated air of the mine is returned or conducted to the surface.
 - An enclosed airway built at an intersection of mine passages that permits one air current to pass under another air current without mixing.
9. During a bump test of the MX6 Ibrid, the sensor must reach a gas reading of _____% or greater of the applied gas (calibration) concentration within 0 seconds to pass?
- 25
 - 30
 - 60
10. If the run time is less than _____ minutes, instrument alerts the user of the impending shut down by showing "Low Battery" on the lower central part of the display.
- 5
 - 10
 - 15
11. When calibrated using methane concentration less than 5% of volume, reading accuracy of the infrared methane sensor may not be guaranteed to be better than +/- _____%?
- 5
 - 10
 - 20
12. During calibration, the user has _____ minutes to apply gas before calibration times out?
- 3
 - 5
 - 7
13. To power on the MX6 Ibrid instrument, press and hold the center of the navigation button for _____ seconds?
- 2
 - 3
 - 4

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14. What are two types of battery packs available for the MX6 Ibrid?
 - a. NiCad and Lithium ion
 - b. Alkaline and NiCad
 - c. Alkaline and Lithium ion

15. What appears on the display of the MX6 Ibrid when the combustible sensor is exposed to more than 5% by volume CH₄?
 - a. FeRR
 - b. OR
 - c. 5.0% +

16. Oxygen deficient atmospheres may make combustible gas readings to be?
 - a. Higher than actual readings
 - b. Latched over range (+OR)
 - c. Lower than actual readings

17. Sudden changes in atmospheric pressure may cause temporary fluctuations in the _____ reading?
 - a. Carbon monoxide
 - b. Oxygen
 - c. Methane