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# Chemistry Science Questions for CDS, CGL Tier-1, Railways and SSC 10+2 Exams

### **Chemistry Quiz 10**

Directions: Study the following questions carefully and answer the questions given below.

- 1. In the conversion of glucose to ethyl alcohol, which of the following enzyme is used?
- A. Zymase B. Invertase C. Lipase D. Maltase
- 2. Which of the following is present in the nucleus of an atom?
- A. Electrons and protons B. Electrons and neutrons C. Protons and neutrons
- D. Protons only
- 3. Hard water consists of carbonates of which of the following metals?
- A. Calcium and magnesium B. Sodium and magnesium C. Arsenic and sodium
- D. Magnesium and arsenic
- 4. We hear a hissing sound when coca cola is opened. What is the gas responsible for this?
- A. Sulphur dioxide B. Oxygen C. Carbon dioxide D. Nitrogen
- 5. Isotherms are lines displaying?
- A. Equal pressure B. Equal temperature C. Equal volume D. None of the above
- 6. Which of the following gas is used in anesthesia?
- A. Nitrous oxide B. Nitrogen oxide C. Nitrogen pentoxide D. Nitric oxide
- 7. Which of the following is the laughing gas?

- A. Nitrous oxide B. Nitric oxide C. Nitrogen oxide D. Nitrogen pentoxide
- 8. Who is known the father of modern chemistry?
- A. Mendeleev B. Antoine lavoisier C. Louis Pasteur D. Robert boyle
- 9. Quartz consists of which of the following compounds?
- A. Silicon and oxygen B. Silicon and nitrogen C. Magnesium and nitrogen
- D. Magnesium and oxygen
- 10. During electrolysis the reaction at anode is?
- A. Oxidation B. Reduction C. Decomposition D. Any of the above



#### **Correct Answers:**

1	2	3	4	5	6	7	8	9	10
Α	С	Α	O	В	Α	Α	В	Α	Α

### **Explanations:**

#### 1.

Zymase is an enzyme complex that catalyzes the fermentation of sugar into ethanol and carbon dioxide. The whole process is called fermentation in which it converts sugar i.e glucose into carbon dioxide gas (CO<sub>2</sub>) and ethyl alcohol. This process occurs in yeasts in the absence of oxygen.

Hence, option A is correct.

2.

The nucleus of an atom consists of only protons and neutrons. Electrons revolve around the nucleus of the atom. The number of protons is equal to the number of electrons in an atom.

Hence, option C is correct.

3.

Hard water is water that has high mineral content. Hard water is formed when water percolates through deposits of limestone and chalk which are largely made up of calcium and magnesium carbonates. Hence, hard water consists of the carbonates of calcium and magnesium.

Hence, option A is correct.

4.

The bubbles in fizzy drinks are caused by carbon dioxide (CO<sub>2</sub>). Carbon dioxide is a colourless odourless gas that dissolves in water under pressure. The carbon

dioxide forms a very weak carbonic acid,  $(H_2CO_3)$  which causes the tingly sensation on your tongue. The amount of carbonic acid created depends on the pressure.

Hence, option C is correct.

#### 5.

Isotherms are lines displaying equal temperature. The lines are plotted in a pressure-volume graph. The pressure and volume changes but the temperature does not.

Hence, option B is correct.

#### 6.

In the practice of medicine (especially surgery and dentistry), anesthesia or anaesthesia is a state of temporary induced loss of sensation or awareness.

Desflurane, isoflurane and sevoflurane are the most widely used volatile anaesthetics today. They are often combined with nitrous oxide. Older, less popular, volatile anaesthetics, include halothane, enflurane, and methoxyflurane. Researchers are also actively exploring the use of xenon as an anaesthetic.

The Question Bank

Hence, option A is correct.

#### **7**.

Nitrous oxide is used as a laughing gas. N2O is the chemical formula of nitrous oxide. Nitrous oxide, commonly known as laughing gas is a chemical compound, an oxide of nitrogen with the formula N and O. At room temperature, it is a colorless NON INFLAMMABLE GAS, with a slight metallic scent and taste. At elevated temperatures, nitrous oxide is a powerful oxidizer similar to molecular oxygen.

Hence, option A is correct.

#### 8.

Antoine Lavoisier is considered the father of modern chemistry. He was a French nobleman who recognized and named oxygen and isolated the major components of air. Antoine-Laurent de Lavoisier is known as "the father of modern chemistry."

Hence, option B is correct.

#### 9.

Quartz is a mineral composed of silicon and oxygen atoms in a continuous framework of SiO<sub>4</sub> silicon—oxygen tetrahedra, with each oxygen being shared between two tetrahedra, giving an overall chemical formula of SiO<sub>2</sub>. Quartz is the second most abundant mineral in Earth's continental crust, behind feldspar.

Hence, option A is correct.

#### 10.

Electrolysis is the chemical process of using an electrical current to stimulate non-spontaneous reactions. A non-spontaneous reaction is one that needs energy to work while it proceeds. In other words, the process would not happen on its own, as it goes in an unfavorable, or a reversed, direction.

This process requires an anode, a positively charged electrode, and a cathode, a negatively charged electrode. Oxidation occurs at anode and reduction occurs at the cathode.

Hence, option A is correct.



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