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

Chemistry Quiz 8

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

1. When acid is added to the indicator- methyl orange, what is the color observed?

A. Green B. Blue C. Red D. Yellow

2. Which of the following non- metal exists in liquid state at room temperature?

A. Bromine B. Mercury C. Aluminium D. Iodine

3. The number of electrons present in Carbon is?

A. 4 B. 2 C. 6 D. 12

4. Which of the following are the components of aqua – regia?

- A. Nitric acid and sulphuric acid
- B. Hydrochloric acid and sulphuric acid
- C. Nitric acid and hydrochloric acid
- D. None of the above

5. Which of the following metals is placed at the bottom of the reactivity series?

A. Gold B. Potassium C. Mercury D. Iron

6. White phosphorus is stored in which of the following substances?

A. Kerosene oil B. Water C. Petrol D. Coconut oil

7. Name the element whose allotropic form is buckminsterfullerene?

A. Aluminium B. Copper C. Carbon D. Sodium

8. Which of the following is the hardest substance known?

A. Diamond B. Iron C. Copper D. Zirconium

9. Name the gas evolved when ethanoic acid is added to sodium carbonate?

A. Hydrogen B. Carbon dioxide C. Sulphur D. Nitrogen

10. Vinegar contains which of the following acids?

A. Formic acid B. Acetic acid C. Oxalic acid D. Citric acid



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Correct Answers:

1	2	3	4	5	6	7	8	9	10
C	A	C	C	A	B	C	A	B	B

Explanations:

1.

Methyl orange is a pH indicator frequently used in titration because of its clear and distinct colour variance at different pH values. Methyl orange shows red colour in acidic medium and yellow colour in basic medium. It is orange in neutral medium.

Acidic Ph range is 1-7 and basic ph range is 7-14. 7 is the neutral value.

Hence, option C is correct.

2.

Bromine is a non- metal which exists in liquid state at room temperature. Also, note that mercury is a metal which exists in liquid state at room temperature.

Hence, option A is correct.

3.

The number of electrons present in carbon is 6. Therefore, the atomic number of carbon is 6. The electrons present in the outermost shell of the carbon atom is 4. Therefore, only 4 electrons participate In bonding. Thus, valency of carbon is 4 and it is known as a tetravalent element.

Hence, option C is correct.

4.

Aqua regia is a mixture of nitric acid and hydrochloric acid, mixed in the ratio 1:3 respectively. Aqua regia is a yellow-orange fuming liquid, because it can dissolve the noble metals gold and platinum. It is a very strong acid owing to the strong components present in the mixture.

Hence, option C is correct.

5.

In chemistry, the reactivity series is a series of metals, in order of reactivity from highest to lowest. It is used to determine the products of single displacement reactions, whereby metal A will replace another metal B in a solution if A is higher in the series.

Noble metals like gold, platinum are low in reactivity and are therefore kept at the bottom in the series.

Hence, option A is correct.

6.

White phosphorus is a translucent white solid, is poisonous and insoluble in water. It glows in the dark (Chemiluminescence). It is less stable and hence, more reactive. It is soluble in Carbon disulphide. Its molecular formula is P_4 .

It is kept under water because it is highly reactive, and spontaneously combusts when exposed to the air.

Hence, option B is correct.

7.

Each of two or more different physical forms in which an element can exist are known as allotropes. Graphite, charcoal, and diamond are all allotropes of carbon. Buckminsterfullerene is an allotrope of carbon. Other allotropes are diamond, graphite. The formula of buckminsterfullerene is C_{60} .

Hence, option C is correct.

8.

Diamond is the hardest mineral known to man till date.

Hence, option A is correct.

9.

Carbon dioxide is evolved when ethanoic acid is added to sodium carbonate. The gas is invisible to the eye but can be detected by the pop sound made by the gas in a bubble solution.

Hence, option B is correct.

10

Vinegar contains acetic acid. Formic acid is present in stinging nettles. It is also present in stings and bites of many insects. Oxalic acid is present in tomato. Citric acid is majorly present in lemons.

Hence, option B is correct.



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