



**DELHI PUBLIC SCHOOL NEWTOWN**  
**SESSION: 2023-24**  
**MONDAY TEST**

**CLASS : IX**  
**SUBJECT : CHEMISTRY**

**FULL MARKS : 40**  
**DATE: 10.07.2023**

**General Instructions:**

- The paper consists of three printed pages.
- Answers should be to the point.
- Question numbers should be copied carefully while answering the questions.

**Question: 1**

Choose the correct answer from the options given below:

[5]

- (i) The substance used to remove hydrogen sulphide from hydrogen :
- A. Lead nitrate solution
  - B. Sodium chloride solution
  - C. Silver nitrate solution
  - D. Anhydrous calcium chloride
- (ii) Which of the following nitrate on heating leaves no residue?
- A. Sodium nitrate
  - B. Ammonium nitrate
  - C. Zinc nitrate
  - D. Copper nitrate
- (iii) Which of the following has no neutrons:
- A. Helium ion
  - B. Deuterium
  - C. Protium
  - D. Tritium
- (iv) The noble gas has duplet arrangement:
- A. Helium
  - B. Neon
  - C. Krypton
  - D. Argon
- (v) The compound which slows down the rate of decomposition of hydrogen peroxide is:
- A. Phosphoric acid
  - B. Nitric acid
  - C. Hydrochloric acid
  - D. Sulphuric acid

**Question: 2**

Name the following:

[5]

- (i) A compound which on decomposition produces a reddish brown gas.
- (ii) The impurity associated with granulated zinc which acts as a catalyst in the laboratory preparation of hydrogen.

- (iii) A gas which turns moist lead acetate paper silvery black.
- (iv) Atoms of same element having same atomic number but different mass numbers.
- (v) A metallic nitrate which on heating produces oxygen as the only gaseous product.

**Question: 3**

Give reasons for the following: [5]

- (i) Neon is chemically inert.
- (ii) Silver salts are stored in dark coloured reagent bottles.
- (iii) Actual atomic mass of an element is greater than its mass number.
- (iv) Nitric acid is not used in the laboratory preparation of hydrogen.
- (v) The electronic configuration of calcium is 2,8,8,2 and not 2,8,10

**Question: 4**

Write the formula of the following compounds: [5]

- (i) Sodium thiosulphate
- (ii) Calcium nitride
- (iii) Aluminium phosphate
- (iv) Lead acetate
- (v) Potassium zincate

**Question: 5**

Write balanced chemical equation for the following reactions which takes place under the following condition: [5]

- (i) A reaction that takes place under high pressure
- (ii) A reaction which takes place in presence of electricity.
- (iii) A precipitation reaction in which a yellow precipitate is formed.
- (iv) A reaction which takes place in presence of light.
- (v) A reaction which proceeds with evolution of heat

**Question: 6**

An orange crystalline solid [A] on heating produces a neutral oxide [B], a colourless, odourless gas [C] and leaves behind a fluffy green residue [D]. [5]

- (i) Identify A, B, C and D.
- (ii) Write balanced chemical equation in support of your answer.

**Question: 7**

- a) Calculate the percentage of water of crystallization in  $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$   
[Cu = 64, S = 32, O = 16, H = 1]
- b) Complete the following equations and identify as oxidation or reduction:
  - (i)  $\text{S} + \underline{\hspace{1cm}} \rightarrow \text{S}^{2-}$
  - (ii)  $\text{Mn}^{7+} + \underline{\hspace{1cm}} \rightarrow \text{Mn}^{4+}$
  - (iii)  $\text{Cr} \rightarrow \text{Cr}^{3+} + \underline{\hspace{1cm}}$

[5]

**Question: 8**

With respect to industrial preparation of hydrogen answer the following:

- (i) Name the process.
- (ii) Write the equation for the endothermic process.
- (iii) Name the catalyst and the promoter used in this process,
- (iv) Write balanced equation for the catalysed reaction. [5]