



**DELHI PUBLIC SCHOOL NEWTOWN**  
**SESSION: 2022-23**  
**MONDAY TEST**

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

**FULL MARKS: 40**  
**DATE: 22.7.2022**

**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.
- Marks will be deducted for spelling errors.

**Question: 1**

Choose the correct answer from the options given below:

[5]

- (i) The metal whose nitrate on decomposition gives only one gas:
- A. Calcium
  - B. Sodium
  - C. Magnesium
  - D. Copper
- (ii) The metal that does not react with cold water to liberate hydrogen:
- A. Potassium
  - B. Sodium
  - C. Magnesium
  - D. Calcium
- (iii) The name of the compound whose formula is  $\text{NaClO}_4$  is :
- A. Sodium hypochlorite
  - B. Sodium chlorite
  - C. Sodium chlorate
  - D. Sodium perchlorate
- (iv) The number of times a molecule of a compound is heavier than the  $1/12$  of the mass of C-12 atom is also known as:
- A. Mass
  - B. Weight
  - C. Atomic mass
  - D. Molecular mass
- (v) If the pressure of a gas is increased two times of its initial value at a fixed temperature, then the final volume would be \_\_\_\_ of the initial volume.
- A. Double
  - B. Triple
  - C. One half
  - D. One fourth

**Question: 2**

**State the following:**

**[5]**

- (i) The compound whose formula is  $\text{Na}_2\text{S}_2\text{O}_3$ .
- (ii) The white solid on heating gives two gases.
- (iii) Absolute temperature of a gas at  $-17^\circ\text{C}$ .
- (iv) The oxidised product formed in the reaction between hydrogen sulphide and chlorine.
- (v) The compound formed on thermal dissociation of dinitrogen tetroxide.

**Question: 3**

**State your observations:**

**[5]**

- (i) Sodium hydroxide solution is added to zinc sulphate solution.
- (ii) Zinc granules are added to copper sulphate solution.
- (iii) Zinc carbonate is heated in a test tube.
- (iv) Dilute hydrochloric acid is added to lead metal.
- (v) Blue vitriol is heated strongly in a test tube.

**Question: 4**

**Write balanced equations for the following word reactions:**

**[5]**

- (i) Manganese dioxide + hydrochloric acid  $\rightarrow$  manganese chloride + water + chlorine
- (ii) Lead sulphide + oxygen  $\rightarrow$  lead monoxide + sulphur dioxide
- (iii) Calcium + nitrogen  $\rightarrow$  calcium nitride
- (iv) Zinc + potassium hydroxide  $\rightarrow$  potassium zincate + hydrogen
- (v) Copper + nitric acid  $\rightarrow$  copper(II)nitrate + water + nitrogen dioxide

**Question: 5**

**Write the formula for the following compounds:**

**[5]**

- (i) Calcium phosphate
- (ii) Stannous chloride
- (iii) Sodium ferrocyanide
- (iv) Barium carbonate
- (v) Potassium acetate

**Question: 6**

**[5]**

**The following questions refer to the laboratory preparation of hydrogen using a metal and dilute acid.**

- (i) Write a balanced equation for the reaction taking place.
- (ii) How is the gas collected?
- (iii) State one important precaution you must take while preparing the gas.
- (iv) Nitric acid is not used as the dilute acid during the above preparation. Give reason.
- (v) Name the drying agent used.

**Question: 7**

**Solve the following numericals:**

**[5]**

- (i) One litre of a gas at  $10^\circ\text{C}$  is heated till both its volume and pressure are tripled. Find the new temperature (in  $^\circ\text{C}$ ).
- (ii) To what temperature must a gas at 300K be cooled down in order to reduce its volume to  $1/3^{\text{rd}}$  of its original volume, pressure remaining constant?

**Question: 8**

- (i) State Charles's Law.
- (ii) Find the percentage mass of hydrogen in ammonium carbonate. [At. Mass: N=14, C=12, O=16]
- (iii) Complete the following oxidation- reduction reactions:
  - (a)  $2\text{Cl}^- \rightarrow \text{Cl}_2$
  - (b)  $\text{Cr}^{3+} \rightarrow \text{Cr}^{6+}$

[5]