



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 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 $\frac{1}{12}$ 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°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°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 Charle'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]