

FIRST QUARTERLY EXAMINATION 2022-23

CLASS: IX

SUBJECT: CHEMISTRY

TIME: 2 HRS

MARKS: 80

Section-A [40 Marks]

Q1. Write the symbols of the following radicals . [5]

- (i) Bicarbonate
- (ii) Sulphate
- (iii) Zincate
- (iv) Hypochlorite
- (v) Chlorate

Q2. Write the formula of the following compounds. [5]

- (i) Potassium bisulphate
- (ii) Sodium bisulphate
- (iii) Calcium bicarbonate
- (iv) Magnesium nitrate
- (v) Zinc chloride

Q3. Balance the following chemical equations. [6]5

- (i) $\text{Fe}_2\text{O}_3 + \text{CO} \rightarrow \text{Fe} + \text{CO}_2$
- (ii) $\text{Al} + \text{H}_2\text{SO}_4 \rightarrow \text{Al}_2(\text{SO}_4)_2 + \text{H}_2$
- (iii) $\text{NaOH} + \text{Cl}_2 \rightarrow \text{NaCl} + \text{NaClO} + \text{H}_2\text{O}$

Q4. Give an example of following type of reactions..... [14]

- (i) An equation for thermal decomposition.
- (ii) An equation for thermal dissociation.
- (iii) An equation for electrolytic reaction.
- (iv) An equation for displacement reaction.
- (v) An equation for photochemical reaction.
- (vi) An equation for precipitation reaction.
- (vii) An equation for neutralization.

Q5. Name the solvent in which it dissolves.....

[4]

- (i) Rubber.....
- (ii) Sulphur.....
- (iii) Chlorophyll.....
- (iv) Iodine.....
- (v) Rust.....
- (vi) Napthalene.....

Q6 Name of the followings :

[4]

- (i) An efflorescent substance.
- (ii) An hygroscopic substance.
- (iii) A deliquescent salt.
- (iv) A drying agent.

Section - B [40 marks]

Answer any four questions from the following

Q7.(a) Complete and balance the followings by partial equation method.

[4]

- (i) $\text{KMnO}_4 + \text{H}_2\text{SO}_4 + \text{H}_2\text{S} \rightarrow$
- (ii) $\text{Cu} + \text{conc.H}_2\text{SO}_4 \rightarrow$

(b) Calculate the percentage composition of phosphorous in $\text{Ca}_3(\text{PO}_4)_2$
[Ca= 40, p =31, O= 16]

[3]

(c) Calculate the molecular weight of $[(\text{NH}_4)_2\text{SO}_4]$ [N=14, H=1, S=32, O=16]

[3]

[3]

Q8. (a) Why silver nitrate solution is kept in coloured reagent bottles in the laboratory?

[2]

(b) Differentiate between.....

[2X4=8]

- (i) Thermal decomposition & thermal dissociation
- (ii) Neutralization & precipitation

Q9. (a) Select the correct answer.....

[5]

- (i) An anhydrous crystal.....[blue vitriol/Epsom salt/lead chloride]
- (ii) A substance which causes hardness in water.... $[\text{NH}_4\text{Cl}/\text{CaCl}_2/\text{NaCl}]$
- (iii) A deliquescent salt of a divalent metal..... $[\text{CuCl}/\text{CaCl}_2/\text{FeCl}_2/\text{PbCl}_2]$
- (iv) An anhydrate of a heptahydrate salt... $[\text{Cu}(\text{NO}_3)_2/\text{Ca}(\text{NO}_3)_2/\text{FeSO}_4/\text{CaSO}_4]$
- (v) A drying agent, deliquescent in nature used in a dessicator.. $[\text{Conc.H}_2\text{SO}_4/\text{fused CaCl}_2/\text{FeCl}_3]$

(b) Why is fused calcium chloride and not potassium chloride kept in a desiccator? [2]

(c) State the causes of hardness in water. [2]

(d) How is permanent hardness removed? [1]

Q10. Give reason: answer the following questions. [5x2=10]

(i) Table salt becomes moist and sticky during the rainy season. Why?

(ii) How does an increase in temperature affect solubility of CaSO_4 ?

(iii) How can you increase the solubility of a given volume of gas in water?

(iv) What test would you do to find out whether a given solution is saturated or unsaturated?

(v) How would you convert a saturated solution to an unsaturated solution?

Q11. Answer the following questions:

(i) Who has discovered electrons & How? [2]

(ii) Draw a diagram to show cathode rays in the discharge tube. [3]

(iii) Who has discovered protons & How? [2]

(iv) Draw the diagram of discharge tube to show Anode rays. [3]