

GREENLAWNS SCHOOL, WORLI

TERMINAL EXAMINATION: 2024-25

CHEMISTRY

Std: VIII

Marks: 80

Date: 30/09/2024

Time: 2 hrs

Answer to this paper must be written on the answer booklet provided to you.

The first 10 minutes are to be spent in reading the Question paper. The time given at the head of this paper is the time allowed for writing the answers. All questions are compulsory.

Do not waste paper. Leave only one line after each answer.

I A) Choose the correct answers to the questions from the given options. [10]

(Do not copy the question, write the correct answer only.)

(i) What is the process called when a liquid changes into a gas at a temperature below its boiling point?

- | | |
|-----------------|------------------|
| (a) Boiling | (c) Condensation |
| (b) Evaporation | (d) Freezing |

(ii) Which of the following is **not** a sign of chemical change?

- | | |
|-----------------------|----------------------------------|
| (a) Production of gas | (c) Change in size |
| (b) Change in mass | (d) Formation of a new substance |

(iii) Which separation technique is used to separate a soluble solid from a liquid?

- | | |
|-------------------|------------------------|
| (a) Filtration | (c) Solvent extraction |
| (b) Sedimentation | (d) Distillation |

(iv) Which scientist discovered the neutron?

- | | |
|-----------------|-----------------------|
| (a) J.J.Thomson | (c) James Chadwick |
| (b) John Dalton | (d) Ernest Rutherford |

(v) Which of the following is the correct formula of Ammonium sulphate?

- | | |
|----------------------------------|----------------------------------|
| (a) NH_4SO_4 | (c) $\text{NH}_4(\text{SO}_4)_2$ |
| (b) $(\text{NH}_4)_2\text{SO}_4$ | (d) NH_4SO_3 |

(vi) In Landolt's experiment, the reaction between Sodium chloride and Silver nitrate results in the formation of what precipitate?

- | | |
|---------------------|---------------------|
| (a) Sodium nitrate | (c) Silver chloride |
| (b) Sodium chloride | (d) Silver sulphate |

(vii) The chemical name of rust is:

- | | |
|----------------------|---------------------|
| (a) Iron (III) oxide | (c) Iron (I) oxide |
| (b) Iron (II) oxide | (d) Iron (IV) oxide |

(viii) An example of a lustrous non-metal which conducts electricity is:

- (a) Iodine
- (b) Mercury
- (c) Zinc
- (d) Graphite

(ix) An element with atomic number 15 and mass number 31 is:

- (a) Fluorine
- (b) Phosphorus
- (c) Silicon
- (d) Sulphur

(x) The negatively charged ions are called:

- (a) Radicals
- (b) Valency
- (c) Cations
- (d) Anions

B) Match the atomic numbers 10, 14, 8, 15 and 19 with each of the following: [5]

- (i) A solid non-metal of valency 3.
- (ii) An inert gas element.
- (iii) A metal with one electron in N shell.
- (iv) A non-metal of valency 4.
- (v) An element with 6 electrons in valence shell.

C) State which type of mixture A to E are separated using the methods 1 to 10: [5]

- | | | |
|-----------------------|-------------------------|----------------|
| A. Two solids | B. A solid and a liquid | C. Two liquids |
| D. A liquid and a gas | E. Two gases | |

- (i) Solvent extraction
- (ii) Sedimentation
- (iii) Boiling
- (iv) Fractional distillation
- (v) Fractional crystallisation
- (vi) Evaporation
- (vii) Diffusion
- (viii) Sublimation
- (ix) Distillation
- (x) Use of separating funnel

D) Give one point of difference between each of the following: [5]

- (i) John Dalton and Jacob Berzelius
- (ii) Electrovalency and Covalency
- (iii) Malleable and ductile
- (iv) Ripening of fruit and drying of fruit
- (v) Reactants and products

E) Define the following terms: [5]

- (i) Isotopes
- (ii) Centrifugal force
- (iii) Interconversion of matter
- (iv) Periodic changes
- (v) Ion

F) Write molecular formula of the following compounds: [5]

- (i) Calcium bisulphite
- (ii) Aluminium nitrate
- (iii) Lead (II) hydroxide
- (iv) Potassium plumbite
- (v) Iron (II) sulphide

G) Balance the following chemical equations: [5]

- (i) $\text{NaHCO}_3 + \text{H}_2\text{SO}_4 \rightarrow \text{Na}_2\text{SO}_4 + \text{H}_2\text{O} + \text{CO}_2$
- (ii) $\text{AgCl} + \text{NH}_4\text{OH} \rightarrow \text{Ag}(\text{NH}_3)_2\text{Cl} + \text{H}_2\text{O}$
- (iii) $\text{HNO}_3 \rightarrow \text{H}_2\text{O} + \text{NO}_2 + \text{O}_2$
- (iv) $\text{Mg}_3\text{N}_2 + \text{H}_2\text{O} \rightarrow \text{Mg}(\text{OH})_2 + \text{NH}_3$
- (v) $\text{Cu} + \text{H}_2\text{SO}_4 \rightarrow \text{CuSO}_4 + \text{H}_2\text{O} + \text{SO}_2$

II A) Write down: [2]

- (i) The mass number of the atom having 20 neutrons and 15 protons.
- (ii) The number of neutrons in the nucleus of an atom having atomic number 17 and mass number 37.

B) Mention any two characteristics of 'Mixtures.' [2]

C) Complete the blanks and rewrite with reference to interconversion of matter on basis of kinetic theory using the words given below: [3]

(slow down, decreases, falls, increases, gas, gain energy, become free, solid, rises, lose energy)

On cooling liquids, the temperature _____, the particles _____, the inter – particle space _____, the inter-particle attraction _____. At solidification point, the particles _____ and the liquid changes to _____ state.

D) Give reasons for the following: [3]

- (i) Burning of sulphur is a chemical change.
- (ii) Iron sulphide is considered a compound.
- (iii) A mixture of Sulphur and charcoal is separated by solvent extraction technique.

III A) Draw the orbital diagrams representing the atomic structures of the following: [5]

- (i) Nitrogen (A=14)
- (ii) Potassium (A=39)

B) With the help of a diagram, explain the discovery of protons. [5]

IV A) Balance the following word equations: [4]

- (i) Iron + Chlorine \rightarrow Iron (III) chloride
- (ii) Nitrogen + Hydrogen \rightarrow Ammonia

B) Write the names of the following compounds: [3]

(i) $K_2Cr_2O_7$

(ii) ZnS

(iii) $NiSO_4$

C) Give 3 points of difference between Physical and Chemical changes. [3]

V A) State how electrons are distributed in an atom. Explain in brief the rules which govern their distribution. [3]

B) State principle and give an example of the following separation methods: [3]

(i) Fractional crystallisation

(ii) Separating funnel

C) Define 'Radical.' Name a positive radical. [2]

D) State electronic configuration of the following elements: [2]

(i) Argon

(ii) Sulphur
