Brain International School

Vikas Puri, New Delhi

REVISION SHEET

SUBJECT: CHEMISTRY **CLASS-IX** **TERM II**

Chapter 1: Matter In Our Surroundings.

1. **Multiple choice questions:**

i. It is easier to break a piece of chalk than an iron nail. Which characteristic property of a matter is it mentioning about :

(a) Particles are continuously moving (b) Particles of matter attract each other

(c)Inter mixing of particles of different types (d) Latent heat of vaporization

ii. Rama suspects that the LPG cylinder is Leaking, and immediately turns the Cylinder valve to the OFF position. What Should she do next?

(a) Switch on all lights. (b) Switch off all lights.

(c) Open all the windows (d) Close all the Windows.

iii. Units of temperature :

(a) Bar and pascal (b) Milligram and kilogram

(c) Degree Celsius and kelvin (d)Gram per centimetre cube and kilogram per metre cube

2. **Assertion-Reason question:**

Select the correct answer to these questions from the codes (i), (ii), (iii) and (iv) as given below

(i) Both A and R are true and R is correct explanation of the assertion.

(ii) Both A and R are true but R is not the correct explanation of the assertion.

(iii) A is true but R is false.

(iv) A is false but R is true.

(a) **Assertion**: Disinfectants are rubbed on our hands before taking injections and it feels cold.

Reason: :Particles of disinfectant gains energy from the surroundings and evaporate and leaves our hand cold.

3. **Read the passage and answer the questions that follow:**

Evaporation causes natural cooling. The basic concept is that in order for matter to change state, it must either receive or lose energy. When molecules of matter changes from liquid to gas, they require energy to overcome their potential energy through kinetic energy. As a result, the liquid absorbs energy from its surroundings.

a. Clothes dry faster in a winter day than on a rainy day. Why?

b. It is easy to drink a hot tea from a saucer faster than from a cup. Why?

c. Evaporation requires energy. Explain.

4. Answer the following questions :

1. The temperature of a substance remain constant during its melting point or boiling point. Explain the reason behind it .
2. Rita made a lemon juice and added some ice cubes into it. She observed that ice floated in the juice. Give the reason for this.
3. Plants use carbon dioxide for photosynthesis. Mention its natural state. How is it different from dry ice ?

CHAPTER 2: Is Matter Around Us Pure .

1. Multiple choice questions:

i. Which of the following properties does not describe a compound?
(a) It is composed of two or more elements
(b) It is a pure substance.
(c) It cannot be separated into constituents by physical means
(d) It is mixed in any proportion by mass

ii. Solid solution in which the solute is gas ————
(a) Copper dissolved in gold
(b) Camphor in nitrogen gas
(c) Solution of hydrogen in palladium
(d) All of the above

iii. In tincture of iodine, identify the solute and solvent?
(a) alcohol is the solute and iodine is the solvent
(b) iodine is the solute and alcohol is the solvent
(c) any component can be considered as solute or solvent
(d) tincture of iodine is not a solution

2. **Assertion-Reason question:**

Select the correct answer to these questions from the codes (i), (ii), (iii) and (iv) as given below

(i) Both A and R are true and R is correct explanation of the assertion.

(ii) Both A and R are true but R is not the correct explanation of the assertion.

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a. Assertion (A): Fog is an example of aerosol.
Reason (R): The dispersion medium is gas and dispersed phase is liquid in fog.

b. Assertion (A): When a beam of light is passed through a colloidal solution placed in a dark place the path of the beam becomes visible.
Reason (R): Light gets scattered by the colloidal particles.

3. Read the passage and answer the questions that follow:

Sonu and his friends took an old shoe box and covered it with a black paper from all sides. They fixed a torch at one end of the box by making a hole in it and made another hole on the other side to view the light. They placed a glass of milk in the box . They were amazed to see that milk taken in the tumbler was illuminated. They tried the same activity by taking a salt solution but found that light simply passed through it.

a. Explain why the milk was illuminated. Name the phenomenon involved.
b. Same results were not observed with a salt solution. Explain.
c. Suggest two more solutions which would show the same effect as

4. Answer the following questions :

1. An element is sonorous and highly ductile. Under which category would you classify this element? Write any two other characteristics do you expect the element to possess?
2. It is not possible to distinguish particles of a solute from the solvent in solution. Give reason?
3. a) Differentiate between a true solution and a colloid.
   b) Distinguish between compounds and mixtures.
4. Class 9 B students were asked to prepare a 10% (Mass/Mass) solution of sugar in water. Sita dissolved 10 g of sugar in 100 g of water while Neeta prepared it by dissolving 10 g of sugar in water to make 100 g of the solution.
   (a) Are the two solutions of the same concentration?
   (b) Compare the mass % of the two solutions.

CHAPTER 3:Atoms and Molecules

1. Multiple choice questions:

i. Which of the following is correct symbol of sodium ion?

(a) Na (b) Na+ (c) So (d) Na-

ii. A student studies that magnesium and iron react with oxygen to form MgO and FeO. Although both compounds contain two atoms each of their molecular masses are different. What is the reason for the difference in their molecular masses?

(a) Difference in the atomic mass of iron and magnesium
(b) Difference in the number of iron and magnesium atoms
(c) Different in the atomic number of iron and magnesium
(d) Difference in the number of oxygen atoms in the two compounds.

iii. Identify triatomic molecule from the following?

(a) Nitrogen (b) Hydrogen (b) Ozone (d) oxygen

2. **Assertion-Reason question:**

Select the correct answer to these questions from the codes (i), (ii), (iii) and (iv) as given below

(i) Both A and R are true and R is correct explanation of the assertion.

(ii) Both A and R are true but R is not the correct explanation of the assertion.

(iii) A is true but R is false.

(iv) A is false but R is true.

Assertion (A): Valency of Aluminium is 3 and it forms Al3+

Reason (R): Metals form cations by losing electrons in order to get stability.

3. Read the passage and answer the questions that follow:

In 1794, Joseph Proust, a French chemist formulated the law of constant proportions from the work he did on sulfates, metal oxides and sulfides. Also, this law was favored since Dalton's atomic theory was introduced as well. The relation between them was also discovered by Jacob Berzelius, a Swedish chemist in the year 1811.

a)Calculate the amount of Hydrogen and oxygen obtained when 90g water is decomposed will be equal to

b)What is the ratio by mass of Carbon and Oxygen in CO2?

c)State the postulates of Dalton's atomic theory that explains Proust's law?

4. Answer the following questions :

1. (a) List the postulates of Dalton's Atomic theory .

(b) Which postulate/postulates were disproved later?

(c)Mention the discovery that led to this disapproval?

2. Identify anions and cations in the following compounds :

a. Calcium hydroxide b. Sodium carbonate

3. Write down the chemical name of : a. $AlPO_4$ b. ZnO c.H2S d.CCl_4

CHAPTER 4:Structure of an Atom

1.Multiple choice questions:

(i) Which among the following does not contain neutrons?

(a)Helium (b) Hydrogen (c) Lithium (d)Boron

(ii) An ion of an element has 3 positive charges, 27 mass numbers and 14 neutrons. Find the number of electrons in this ion.

(a)13 (b) 10 (c) 14 (d) 166

(iii) What will be the charge on an atom of sodium(Na) if it losses one electron :

(a) positive (b) negative (c) neutral (d) no Change

2. **Assertion-Reason question:**

Select the correct answer to these questions from the codes (i), (ii), (iii) and (iv) as given below

(i) Both A and R are true and R is correct explanation of the assertion.

(ii) Both A and R are true but R is not the correct explanation of the assertion.

(iii) A is true but R is false.

(iv) A is false but R is true.

Assertion (A): Na, K, Ca, Mg are metals because they can lose electrons to form positive ions.

Reason (R): F, Cl, P, O are non-metals because they too can gain electrons to form positive ions.

3. Read the passage and answer the questions that follow:

Cancer is a disease in which some of the body's cells grow uncontrollably and spread to other parts of the body. Cancer can start almost anywhere in the human body, which is made up of trillions of cells. Chemicals are used in the treatment of cancer.

Answer the following questions :

a. Mention an isotope used in the treatment of cancer.

b. Nuclear reactors use nuclear fuel. Name the isotope that is used in nuclear reactors.

c. Neeta is suffering from Goitre and she is undergoing radiation therapy. Mention the symptom of this disease and name the isotope

4. Answer the following questions :

1. Two elements X and Y are having similar atomic numbers with different mass numbers.
   a. Mention the name given for such type of atomic species.
   b. Also give the names of three atomic species of hydrogen.
2. a. Following the rules of distribution of electrons, show the formula and calculate the number of electrons that an atom can accommodate in the fifth energy level.
   b. An element has atomic number 8. Identify the element, its valency and valence electrons.
3. Carbon exists in nature in different forms. Estimate the number of protons, neutrons and electrons per atom in the two isotopes of carbon - atomic no: 6 and mass no: with 12 and 14.
4. a. Explain Rutherford's alpha scattering experiment
   b. Draw the diagram of the experiment
   c. Mention his observations.
   d. On the basis of that explain the nuclear model of an atom.