Brain International School

Vikas Puri, New Delhi

REVISION SHEET

SUBJECT: CHEMISTRY **CLASS-IX** **TERM 1**

1.Multiple Choice Questions:

i. A student dissolves sugar in water. Which statement is correct?

A. Suspension B. Colloid C. True solution D. Compound

ii. Which separation technique is used in preparing common salt from sea water?

A. Filtration B. Evaporation C. Sedimentation D. Winnowing

iii. Which mixture shows Tyndall Effect?

A. Salt solution B. Sugar solution C. Milk D. Vinegar

iv. Which property distinguishes suspension from colloid?

A. Colour B. Particle settling C. Density D. Smell

v. Ink is separated into different colours by

A. Distillation B. Filtration C. Chromatography D. Evaporation

vi. Which subatomic particle has no charge?

A. Proton B. Electron C Neutron D. Positron

vii. Which model proposed fixed energy levels for electrons?

A. Thomson's Model B. Rutherford's Model C. Bohr's Model D. Dalton's Model

viii. Which of the following are isotopes?

A. Carbon-12 and Carbon-14 B. Sodium-23 and Magnesium-24
C. Argon-40 and Calcium-40 D. Oxygen-16 and Nitrogen-16

ix. Which scientist discovered the nucleus of an atom?

A. J.J. Thomson B. Niels Bohr C. Ernest Rutherford D. James Chadwick

x. The electronic configuration of Neon is:

A .2,8 B. 2,8,1 C. 2,6 D. 2,7

2. Assertion–Reason Questions :

Choose the correct option:

- **A. Both Assertion and Reason are true, and Reason is the correct explanation.**
- **B. Both Assertion and Reason are true, but Reason is not the correct explanation.**
- **C. Assertion is true, but Reason is false.**
- **D. Assertion is false, but Reason is true.**

1. Assertion : Milk is a colloid.

Reason : Milk particles scatter light.

2. Assertion: Salt solution is transparent.

Reason: Salt particles are too small to scatter light.

3. Assertion : Distillation separates dissolved salt from water.

Reason: Water evaporates and condenses separately.

4. Assertion: Atoms are electrically neutral.
Reason: The number of protons equals the number of electrons.

5. Assertion: Neon is chemically inert.
Reason: Its outermost shell is completely filled.

6.Assertion: Isotopes have similar chemical properties.
Reason: They have the same electronic configuration.

7.Assertion: Mass number is always equal to atomic number.
Reason: Mass number includes only protons.

3. Case-Based Question :

1. **A farmer collected wheat grains mixed with husk, iron nails and small stones. He wanted to separate all the impurities before storing the grains.**

Answer the following questions:

1. Which method is used to remove iron nails?
2. Which method is used to remove husk?
3. Which method is used to remove small stones?

2. **A student prepared three mixtures:**

- **P: Sugar + Water**
- **Q: Milk**
- **R: Sand + Water**

He observed their behaviour after keeping them undisturbed for 30 minutes.

Answer the following questions:

1. Which mixture is a true solution?
2. Which mixture shows the Tyndall effect?
3. Which mixture settles down after some time?
4. Explain why milk shows the Tyndall effect while sugar solution does not.

3. **An atom consists of three fundamental particles—protons, neutrons and electrons. Protons carry a positive charge, electrons carry a negative charge, while neutrons have no charge. The nucleus contains protons and neutrons, whereas electrons revolve around it in different shells.**

Answer the following questions:

1. Which subatomic particle has no charge?

2. Which particles are present inside the nucleus?

3. Which particle determines the atomic number of an element?

4. Why are atoms electrically neutral?

4.A student observes the following information about two atoms.

Atom	Atomic Number	Mass Number
X	17	35
Y	17	37

Answer the following questions:

1. What relationship exists between X and Y?

2. How many protons are present in atom X

3. How many neutrons are present in atom Y?

4. Calculate the number of neutrons present in atom X and explain your calculation.

5. Explain why X and Y have similar chemical properties despite different mass numbers.

4.Short Answer Questions (2 Marks)

1.Differentiate between solution and suspension.

2. Why is chromatography important?

3. Suggest a suitable method to separate sand from water and justify your answer.

4. Arrange the following separation techniques in the correct sequence to obtain clean wheat grains and justify your sequence: Magnetic separation, Hand picking, Winnowing.

5. A coastal village plans to convert seawater into drinking water. Which separation technique would you recommend? Explain your answer.

6. Name any four separation techniques and mention one use of each.

7. What are isotopes? Give one example.

8.What is Bohr and Bury rule ?

5. Short Answer Questions (3 Marks)

1. A mixture contains iron filings, sand and common salt. Explain how each component can be separated.

2. Compare true solution, colloid and suspension.

3. Explain chromatography with one real-life application.

4. Why is knowledge of separation techniques important in everyday life? Give three examples.

5. Explain the significance of electronic configuration in determining the chemical properties of an element.

6. Differentiate between isotopes and isobars with suitable examples.

6. **Long Answer Questions** (5 Marks)

1. Explain distillation with a labelled diagram and applications.

2. A chemistry laboratory received a mixture containing chalk powder, common salt and iron filings.

   Explain the complete procedure to separate all three components and justify each step.
3. Describe the different methods of separation used in daily life. Mention the principle and one application of each.
4. Explain the classification of mixtures into solution, colloid and suspension. Compare their following properties : Particle size , Appearance , Stability , Tyndall effect ,Filtration ,Examples
5. Explain the structure of an atom with the help of a labelled diagram and draw it for Al,C,Na.

Higher-Order Thinking (HOTS)

1. A student wants to obtain pure drinking water from muddy saline water. Explain the sequence of separation methods.

2. A student claims that all transparent liquids are true solutions. Do you agree? Justify your answer.

3. Suggest the minimum number of separation techniques required to separate a mixture of iron filings, sand, salt and water. Explain your sequence.

4. During a classroom discussion, a student says:

"Since neutrons have no charge, changing the number of neutrons should not affect the atom at all."

Do you agree? Give reasons.

5.An atom has:

- Mass Number = 31
- Number of Neutrons = 16

Calculate:

a) Atomic Number b) Number of Protons c) Number of Electrons d) Electronic Configuration