

CHEMISTRY Paper-IX (26)

ہر سوال کے سامنے چار دائرے دیئے گئے ہیں، صرف صحیح جواب والا دائرہ بھر دیں۔

۲۔ دائروں کو شیڈ (بھرنے) کے لیے نیلے یا کالے رنگ کا مارکر استعمال کریں۔

۳۔ جواب میں ایک سے زائد دائرے بھرے سے جواب غلط تصور ہو گا۔

Time: 20 Minutes

SECTION-A

Marks: 12

Q1: Choose the correct option i.e, A,B,C or D?

- The uranium isotope most abundant in nature is.
☐ Uranium-234 ☐ Uranium-235
☐ Uranium-238 ☐ Uranium-240
- According to the duplet rule, helium is stable because.
☐ It has no valence electrons ☐ It has four electrons
☐ It has two electrons in its valence shell ☐ It has eight electrons
- The study of hydrocarbons and their derivatives belong to.
☐ Inorganic chemistry ☐ Nuclear chemistry
☐ Organic chemistry ☐ Environmental chemistry
- In NH_3 , the oxidation number of nitrogen is.
☐ +3 ☐ -3 ☐ 0 ☐ -1
- If the empirical formula of a compound is CH and its molecular mass is 78, the molecular formula is.
☐ C_3H_3 ☐ C_6H_6 ☐ C_4H_4 ☐ C_7H_7
- The unit commonly used for volume in molarity calculations is.
☐ m^3 ☐ dm^3 ☐ cm^3 ☐ mm^3
- In an electrolytic cell, the cathode is the electrode where.
☐ Oxidation occurs ☐ Reduction occurs
☐ Electrons are released ☐ Positive ions are formed
- In which compound ionic bond is present?
☐ H_2O ☐ CO_2 ☐ CaCl_2 ☐ C_2H_4
- The spontaneous mixing of particles is known as.
☐ Evaporation ☐ Sublimation ☐ Diffusion ☐ Boiling
- In period-2, the element which is more electronegative.
☐ Lithium ☐ Carbon ☐ Nitrogen ☐ Fluorine
- The liquid having the highest boiling point will be.
☐ Liquid with weak intermolecular forces
☐ Non-polar liquid
☐ Liquid with strong intermolecular forces
☐ Liquid with high vapor pressure
- Particle size in a true solution is.
☐ Great than 1000nm ☐ Between 1-1000nm
☐ Less than 1nm ☐ Visible to naked eye

CHEMISTRY 9th (Full Course)**Note:** Time allowed for Section-B & Section-C is 2:40 hours.**SECTION-B****Marks: 32****Q2:** Write short note to any EIGHT of the following parts. All parts carry equal marks.

1. Explain with reasons why bronze is a mixture and water is a compound.
2. Write the electronic configuration of the following elements:
(a) $_{11}\text{Na}$ (b) $_{15}\text{P}$ (c) $_{16}\text{S}$ (d) $_{18}\text{Ar}$
3. Which electrons are mainly responsible for causing the shielding effect in multi-electron atoms? Also mention which element has a greater shielding effect, Lithium or Oxygen.
4. Differentiate between single and double covalent bonds and give one example of each.
5. Explain how the octet rule is achieved during the formation of cations and anions, using one metallic and one non-metallic example.
6. Define Charles's Law. Also describe its diagrammatic representation.
7. What happens when a small amount of solute is added to:
(a) A saturated solution (b) A supersaturated solution
8. Predict the solubility of potassium chloride in water and in kerosene. Support your answer with reasons.
9. Explain how plastic coating helps in corrosion prevention. Mention one everyday example.
10. Explain the electroplating of zinc on steel. Mention the electrolyte, anode, cathode and half reactions.
11. Give four applications of gold in health sciences.

SECTION-C**Marks: 21****Note:** Answer any THREE questions. All questions carry equal marks.

- Q3:** (a) Describe Rutherford's gold foil experiment in four points.
(b) Find the number of molecules in 0.1 mole of ammonia (NH_3).
- Q4:** (a) Explain the role of valence electrons in the formation of chemical bonds.
(b) What is electronic configuration? Justify why carbon (C) and silicon (Si) belong to the same group. Give names of any two elements of group-VA.
- Q5:** (a) What is solid in solid solution? Explain the formation of brass and bronze alloys, by mentioning solute and solvent also.
(b) Classify the following as amorphous or crystalline solids:
(i) Cotton candy (ii) Table salt (iii) Plastic
- Q6:** (a) Sketch a Daniel cell and label two of its important parts. Write

the name of the electrode from which electrons are released.

(b) Write the balanced chemical equation when chlorine reacts with hydrogen sulphide gas. Identify whether chlorine acts as an oxidizing or reducing agent. Name the products formed in the reactions.

