

ESKPIX-XXVI (I)
SSC-(P-I)
CHEMISTRY – 9th

Time: 2 Hours 45 Minutes

SECTION "B"

Marks: 32

Note: Attempt any EIGHT (08) questions. All questions carry equal marks.

- Q.1.** Define element and compound. Give two examples of each. 1+1+1+1
- Q.2.** Write the electronic configuration of the following elements. 1+1+1+1
(i). ${}^4\text{Be}$ (ii). ${}^{12}\text{Mg}$ (iii). ${}^{16}\text{S}$ (iv). ${}^{18}\text{Ar}$
- Q.3.** Define shielding effect. How does shielding effect explain the trend in atomic radius down a group? 2+2
- Q.4.** Describe the covalent bonding in chlorine (Cl_2) and oxygen (O_2) by stating the type of bond in each. 2+2
- Q.5.** What is an anion? Describe the formation of a chloride ion (Cl^-) from a chlorine atom with the help of electronic configuration and equation. 2+1+1
- Q.6.** A gas occupies 200 cm^3 at 300K . Calculate its volume at 450K at constant pressure. 1+1+1+1
- Q.7.** Define an unsaturated solution and state two characteristics of an unsaturated solution. 2+1+1
- Q.8.** Predict the solubility of benzene in water and alcohol using the rule "*like dissolves like*". 2+2
- Q.9.** Explain the method of galvanization for preventing corrosion of iron. Why is zinc used for this purpose? 2+2
- Q.10.** What is anode made of in tin plating process? Also explain the following in tin plating process: 1+1+1+1
i. Electrolyte
ii. Anodic reaction
iii. Cathodic reaction
- Q.11.** Describe four important commercial uses of silver. 1+1+1+1

SECTION "C"

Marks: 21

Note: Attempt any THREE (03) questions. All questions carry equal marks.

- Q.12.** a) State the main observations and conclusion of Rutherford's α – particle scattering experiment. 2+2
b) How many molecules are present in 2 moles of hydrogen gas (H_2)? 1+1+1
- Q.13.** a) Define ionic bond. Explain its formation with the help of an example. Why is this type of bond formed? 1+1+1+1
b) What is electronic configuration? How does the electronic configuration of the outermost shell help in classifying elements into groups? Show that sodium belongs to group-I. 1+1+1
- Q.14.** a) What is gas in liquid solution? How does carbon dioxide dissolve in water? Give one daily life example. 2+1+1
b) How is the arrangement of particles different in amorphous and crystalline solids? Give one example each of the two types of solid. 2+0.5+0.5
- Q.15.** a) Sketch Daniel cell using zinc and copper electrodes. Label both electrodes and indicate the flow of electrons in the external circuit. 2+1+1
b) Write the balanced chemical equation when chlorine gas is added to a solution of sodium bromide. Will reaction occur as a result? Give reason. 1+1+1