PR IX (A-I-A5) 25

CHEMISTRY

9^{th} (Fresh/Reappear)

Note: Time allowed for Section – B and Section – C is 2 Hours and 45 minutes.

Marks: 32

Section – B

Answer any EIGHT parts. Each part carries FOUR marks.

Q.1 Give at-least four main differences between mixture and compound.

Q.2 What did Rutherford discovered as a result of gold foil experiment?

Q.3 Which atom in each of the following sets has smallest electron affinity value and why?
(a) K, Na, Li (b) Be, Mg, Ca (c) F, Cl, Br

Q.4 How many valance electrons are present in the following elements?
(a) Phosphorus (b) Sulphur (c) Nitrogen (d) Sodium

Q.5 What is the key difference between the bonding between NH_4^+ and CH_4 molecule? Give suitable reasons.

Q.6 Why water has less vapour pressure than that of acetone at same temperature?

Q.7 A solution of NaOH (molar mass 40 g mol^{-1}) was prepared by dissolving 1.6 g of NaOH in 500 cm^3 of water. Calculate molarity of the NaOH solution.

Q.8 Differentiate between miscible and immiscible liquid with example of each.

Q.9 How do strong electrolytes differ from weak electrolytes in terms of ionization? Give examples.

Q.10 Write reactions which take place during electrolysis of fused sodium chloride.

Q.11 Write reaction of sodium with:
(i) Sulphur
(ii) Chlorine

Section – C

Marks: 21

Note: Attempt any THREE questions. All questions carry equal marks.

Q.12 (a) How many moles are present in 20 g of H_2O? (3)
(b) Write electronic configuration of following elements in their sub-shells. (4)
(a) Beryllium (b) Nitrogen (c) Oxygen (d) Neon

Q.13 (a) Which group in periodic table is known as halogens? Write main characteristic of halogens. (3)
(b) Draw Lewis structure of the following compounds. (4)
(a) H_2S (b) H_2O (c) NH_3 (d) N_2

Q.14 (a) Classify the following as amorphous and crystalline solids. (3)
(a) Cotton Candy (b) Naphthalene (c) Lead Pencil
(b) A sample of water contains 2g of hydrogen and 16g of oxygen. Calculate percentage composition by mass? (4)

Q.15 (a) Identify oxidizing and reducing agents in the given reaction. Justify your answer with reference to oxidation state. $2Mn + SnCl_4 \longrightarrow 2MnCl_2 + Cl_2$ (4)
(b) How un-reactivity of platinum makes it useful? (3)