CHEMISTRY 2012

Time: 2 ½ Hours Max. Marks: 68

Instruction: This paper consisting of Short-Answer Questions (Section "B") and Detailed-Answer Questions (Section "C") will be given after 30 minutes.

SECTION "B" (SHORT-ANSWER QUESTION)(42)

NOTE: Answer 14 questions from this section

2. What is a chemical reaction? Define and give one example of each of the following:
   (i) Single displacement reaction
   (ii) Decomposition reaction
3. Calculate the molarity of a solution containing 4 gm of NaOH in 250 cm^3 of Solution.
   (At. mass Na = 23, O = 16, H = 1)
4. Give the chemical formulae of the following ores.
   (i) Copper Pyrite (ii) Iron Pyrite (iii) Haematite
5. Name three types of radioactive rays and write one characteristic of each.
6. Calculate the number of moles, in 40g of Water.
   (At mass H = 1, O = 16)
7. Define water glass and write any two uses of it.

OR Write three properties of Acids.

8. Define the following terms:
   (i) Metal (ii) Non-Metal (iii) Metalloids
9. Write three uses of Sodium Bi Carbonate.
10. What is Allotropy? Write the names of two crystalline forms of sulphur and one characteristic of each of them.

OR Write three differences between a solution and suspension.

11. Give the Chemical Formulae of the following substances
    (i) Caustic Soda (ii) Baking Soda (iii) Washing Soda
12. Define the following: (i) Brownian movement
    (ii) Evaporation (iii) Boiling point
13. What are hydrocarbons? Define saturated and unsaturated hydrocarbons.

OR Write any three differences between Covalent Bond and Coordinate Covalent Bond.

14. Define: (i) PH (ii) Basicity of Acids (iii) Double Salts
15. What is Ionic Bond? Write any two characteristics of Ionic Compounds.
16. State the law of Constant composition and explain it with one example.
17. Define: (i) Saturated Solution
    (ii) Unsaturated Solution
    (iii) Super Saturated Solution

OR Define: (i) Alkane (ii) Alkene (iii) Alkyne

18. Which elements posses only one electron in their valence shell? What are they called? Name the radioactive element of this group.
19. Write down three common properties of Covalent Compounds.
20. Define the following terms:
    (i) Isotopes (ii) Periodicity (iii) Neutralization
21. What is Endothermic reaction? Give two examples.
22. Write any three uses of Hydrogen.

OR Define: (i) Polymeric Chemistry
(ii) Environmental Chemistry (iii) Analytical Chemistry

SECTION C (DETAILED-ANSWER QUESTION)(26)

NOTE: Attempt 2 questions from this section.

23.(a) What is chemical bond? Define Covalent Bond. Explain Polar Covalent Bond and Non Polar Covalent Bond.
(b) What are the Transition Elements? Write any three properties of Transition Elements.
(c) Define the following: (i) Sublimation (ii) Molarity
(iii) Diffusion (iv) Avogadro's Number

24.(a) Define Landolt Experiment with labeled diagram for practical verification of Law of Conservation of Mass.
(b) Describe four types of Normal Oxides.
(c) State Faraday's First and Second Law of electrolysis and write two advantages of Electro plating.

25.(a) With the help of labeled diagram and balanced chemical equation, describe the laboratory method for the preparation of chlorine.
(b) Define a salt and describe the three groups of salts with examples. OR Write four uses of Sulphuric Acid.
(c) Calculate the amount of silver deposited at cathode when 10 ampere of current is passed for 50 minutes through a Solution of $Ag\ No_3$. (Z of Ag = 0.00118 g/C)

OR Write any four uses of Bleaching powder.