15504

B.Sc. Fifth Semester Degree Examination

CHEMISTRY

Paper 5.2

(Old Syllabus)

Time : 3 Hours] [Max Marks 80

Instructions : 1) Section A is **compulsory**.

2) All the sections are containing questions from Inorganic, Organic and Physical Chemistry.

SECTION – A

Answer **ALL** the questions : (15 × 1 = 15)

1. Give any two important of Sodium in our Biological System.
2. What are essential micro elements?
3. Give example for Pseudo Halogens.
4. Give the Electronic Configuration of Chlorine.
5. What are Inter halogen compounds? Give an example.
6. What do you mean by a Cell Constant?
7. Define Ionic mobility.
8. Define Dipole moment of a bond.

9. Write any two examples for Active methylene compounds?

10. What are Disaccharides?

11. Define Saponification value of Oils and Fats

12. Give an example for Addition polymer

13. What are Auxo Chromophores?

14. Define Transport number of an ion

15. What is meant by polarization?

SECTION - B

Answer any **FIVE** of the following : **(5 × 5 = 25)**

16. Discuss the role of Potassium in our Biological System

17. How Glucose is converted into Fructose?

18. Compare the bond polarity in hydrogen halo acids.

19. Discuss the Iron co-ordination environment in heme.

20. Give the synthesis of Ethylacetoacetate with mechanism.

21. How do you account for the shapes of CO_2 and H_2O on the basis of dipole moment?

SECTION – C

Answer any **FOUR** of the following : **(4 × 10 = 40)**

22 (a) Explain the biological functions of Haemoglobin **(6)**

(b) Write the basic properties of Iodine. **(4)**

23 (a) Write the structures of IF_7 and IBr_3 and give their uses **(6)**

(b) Discuss the role of Calcium in our Biological system. **(4)**

24. (a) Explain chromophore theory of Colour and Constitution. **(6)**

(b) Give the synthesis and uses of Nylon. **(4)**

25. (a) Explain the determination Transport number by Hittroff's method. **(6)**

(b) Explain the structure of BF_3 and H_2O molecules on the basis of dipole moment. **(4)**

26. (a) Elucidate the structure of Glucose **(6)**

(b) Give the manufacture of soap by hydrolyser process. **(4)**

27. (a) Explain Debye-Huckle-Onsagar equation for strong electrolytes. **(6)**

(b) Write a note on Conductometric Acid-Base titrations. **(4)**
