0223 **B**

Total No. of Questions: 21
Total No. of Printed Pages: 2

Regd. No.

Part – III

CHEMISTRY

Paper – II

(English Version)

Time : 3 Hours **Max. Marks : 60**

SECTION – A **(10 × 2 = 20)**

Note: (i) Answer **ALL** Questions.

(ii) Each Question carries **TWO** marks.

(iii) All are very short answer type questions.

1. State Faraday's first law of electrolysis.
2. What is vulcanization of rubber?
3. What are antiseptics? Give example.
4. What is blister copper? Why is it so called?
5. What are food preservatives? Give example.
6. Aqueous Cu^{2+} ions are blue in colour, whereas Aqueous Zn^{2+} ions are colourless. Why?
7. What is Ziegler-Natta catalyst?
8. Ammonia is a good complexing agent – explain with an example.
9. Calculate the mole fraction of H_2SO_4 in a solution containing 98% (w/w) H_2SO_4 by mass.
10. Write equations for Carbylamine reaction of any one aliphatic amine.

SECTION – B

(6 × 4 = 24)

Note: (i) Answer **ANY SIX** questions.

(ii) Each question carries **FOUR** marks.

(iii) All are of short answer type questions.

11. Derive Bragg's equation.

12. Give examples to differentiate roasting and calcination.

13. What is relative lowering of vapour pressure? How is it useful to determine the molar mass of a solute?

14. Explain the denaturation of proteins.

15. Explain the structure of (a) XeF_6 and (b) $XeOF_4$

16. What are lyophilic and lyophobic sols? Compare the two terms in terms of stability and reversibility.

17. Explain Werner's theory of coordination compounds with suitable examples.

18. (a) What are ambident nucleophiles?

(b) What are Enantiomers?

SECTION – C

(2 × 8 = 16)

Note: (i) Answer **ANY TWO** questions.

(ii) Each question carries **EIGHT** marks.

(iii) All are long answer type questions.

19. Give a detailed account of the collision theory of reaction rates of bimolecular gaseous reactions.

20. How is chlorine prepared in the laboratory? How does it react with the following?

(a) Iron

(b) hot, conc. NaOH

(c) $Na_2S_2O_3$

21. With a suitable example, write equations for the following:

(a) Kolbe's reaction

(b) Williamson's ether synthesis

(c) Cannizaro reaction

(d) Decarboxylation.