223

II

Total No. of Questions – 21
Total No. of Printed Pages – 3

Regd. No.

Part – III

CHEMISTRY, Paper-II

(English Version)

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

Note : Read the following instructions carefully :

(1) Answer **all** questions of Section – **'A'**. Answer any **six** questions from Section – **'B'** and any **two** questions from Section – **'C'**.

(2) In Section – **'A'**, questions from Sr. Nos. **1** to **10** are of "Very short answer type". Each question carries **two** marks. Every answer may be limited to **two** or **three** sentences. Answer all these questions at one place in the same order

(3) In Section – **'B'**, questions from Sr. Nos. **11** to **18** are of "Short answer type". Each question carries **four** marks. Every answer may be limited to **75** words.

(4) In Section – **'C'**, questions from Sr. Nos. **19** to **21** are of "Long answer type". Each question carries **eight** marks. Every answer may be limited to **300** words.

(5) Draw labelled diagrams, wherever necessary for questions in Section – **'B'** and Section – **'C'**.

SECTION – A

Note : Answer all questions : **10 × 2 = 20**

1. What is Schottky defect ?

2. What are Isotonic solutions ? Give an example.

3. Write the integrated equation for a first order reaction in terms of [R], $[R]_0$ and 't'.

4. Give examples of colloidal system of :
   (a) Liquid in solid
   (b) Gas in solid

5. Nitrogen molecule is highly stable – Why ?

6. Write any two uses of argon.

7. What is Ligand ? Give an example.

8. What are reducing sugars ?

9. Explain Fittig reaction with an example.

10. What is carbylamine reaction ?

SECTION – B

Note : Answer any **six** questions : $6 \times 4 = 24$

11. Derive Bragg's equation.

12. Vapour pressure of water at 293 K is 17.535 mm Hg. Calculate the vapour pressure of the solution at 293 K when 25 g of glucose is dissolved in 450 g of water.

13. Define order of reaction and molecularity of reaction. Write the differences between them.

14. What is adsorption ? Give any three differences between physical adsorption and chemical adsorption.

15. How does ozone react with the following :
    (a) PbS
    (b) KI
    (c) C_2H_4
    (d) Hg

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

17. Write a brief note on the structure of glucose.

18. Explain the mechanism of Nucleophilic bimolecular substitution (S_N2) reaction with one example.

SECTION – C

Note : Answer any **two** questions : **2 × 8 = 16**

19. (a) Explain the working of a galvanic cell with a neat sketch taking Daniel cell as example.

    (b) State and explain Kohlrausch's Law of independent migration of ions.

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

    (a) Cold, Dil. NaOH

    (b) Hot, Conc. NaOH

    (c) NH_3(excess)

    (d) NH_3 with excess Cl_2

21. Describe the following :

    (a) Reimer - Tiemann reaction

    (b) Williamson's Ether synthesis

    (c) Cross aldol condensation reaction

    (d) Decarboxylation reaction