B

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

Regd. No. 1 8 6 0 2 2 3 2 7 9

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 in Section 'B' and **any two** questions in 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 **2** or **3** 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 Sections 'B' and 'C'.

SECTION A

10 × 2 = 20

Note : Answer **all** questions.

1. State Raoult's law.
2. State Faraday's second law of electrolysis.
3. What is *PHBV*? How is it useful to man?
4. Write the names of the monomers for the following polymers.
   a) Bakelite b) Nylon 6, 6
5. What is a ligand? Give one example for unidentate ligand.
6. What are the neutral oxides of nitrogen?
7. What happens when Cl_2 reacts with dry slaked lime?
8. What is blister copper? Why is it so called?
9. Explain carbylamine reaction with an example.
10. Explain the reaction of Aniline with Nitrous acid.

$6 \times 4 = 24$

SECTION B

Note : Answer **any six** questions.

11. Explain Schottky and Frenkel defects.

12. Define mole fraction. Calculate the mole fraction of H_2SO_4 in a solution containing 98% (w/w) H_2SO_4 by mass.

13. What are emulsions? How are they classified? Give one example for each.

14. Explain calcination and roasting with suitable examples.

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

16. What are hormones? Give one example for each of the following :

    a) Steroid hormones b) Polypeptide hormones

    c) Amino acid derivatives

17. What are analgesics? How are they classified? Give one example for each.

18. Explain S_N^1 and S_N^2 reactions with an example.

SECTION C

$2 \times 8 = 16$

Note : Answer **any two** questions.

19. a) What are Galvanic cells? Explain the working of a Galvanic cell by taking Daniel cell as example.

    b) Describe the salient features of the collision theory of reaction rates.

20. a) Write the important reactions involved in the manufacture of sulphuric acid by 'contact process'.

    b) Write the preparation of the compounds XeF_2 and XeF_4. Give their structures.

21. Explain the following reactions with equations.

    a) Kolbe's reaction

    b) Riemer – Tiemann reaction

    c) Williamson's ether synthesis

    d) *HVZ* reaction