

223**II**

Total No. of Questions – 21

Regd.

Total No. of Printed Pages – 2

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 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 **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 diagram, wherever necessary for questions in Section – ‘B’ and ‘C’.

SECTION – A**10 × 2 = 20****Note :** Answer **all** the questions.

1. What is PHBV ? How is it useful to man ?
2. Write the names of monomers of the following polymers :
 - (a) Bakelite
 - (b) Terylene
3. Define osmotic pressure.
4. State Faraday’s first law of electrolysis.
5. What is poling ?
6. A mixture of Ca_3P_2 and CaC_2 is used in making Holmes signal. Explain.
7. In modern diving apparatus, a mixture of He and O_2 is used. Why ?
8. Calculate the magnetic moment of a divalent ion in aqueous solution if its atomic number is 25.

9. What are artificial sweetening agents ? Give example.
10. What are antibiotics ? Give example.

SECTION – B**6 × 4 = 24****Note :** Answer any **six** questions.

11. Derive Bragg's equation.
12. State Raoult's Law.
The vapour pressure of pure benzene at a certain temperature is 0.850 bar. A non-volatile, non-electrolyte solid weighing 0.5 g when added to 39.0 g of benzene (molar mass 78 g mol⁻¹). Vapour pressure of the solution, then is 0.845 bar. What is the molar mass of the solid substance ?
13. What is catalysis ? How is catalysis classified ? Give two examples for each type of catalysis.
14. Differentiate Roasting and Calcination with examples.
15. (a) What is Misch metal ? Give its composition and uses.
(b) What is an Ambidentate Ligand ? Give example.
16. Give the sources of the following Vitamins and name the diseases caused by their deficiency :
(a) A (b) D (c) E (d) K
17. Explain the terms :
(a) Enantiomers (b) Racemisation
18. Explain the following reactions :
(a) Carbylamine reaction (b) Sandmeyer reaction

SECTION – C**2 × 8 = 16****Note :** Answer any **two** of the following questions :

19. Give a detailed account of the collision theory of reaction rates of Bimolecular gaseous reactions.
20. (a) How is chlorine prepared by electrolytic method ? Explain its reaction with
(i) Cold and dil. NaOH (ii) Slaked lime
(b) How does ozone react with following ?
(i) PbS (ii) Moist KI (iii) Hg (iv) C₂H₄
21. (a) Explain the following reactions :
(i) Reimer-Tiemann reaction (ii) Williamson synthesis
(b) Describe the following :
(i) Cannizaro reaction (ii) Decarboxylation