

Total No. of Questions – 21

Regd.

Total No. of Printed Pages – 2

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

SECTION – A

10 × 2 = 20

Note : Answer **all** the questions :

1. Define Osmotic Pressure.
2. What are antibiotics ? Give example.
3. Write the difference between a soap and a synthetic detergent.
4. State Faraday’s first law of electrolysis.
5. Give the composition of the following alloys :
 (a) Brass (b) German Silver
6. List out any two uses of Neon.
7. Write the structure of XeF₄.
8. Why Zn²⁺ is diamagnetic whereas Cr³⁺ is paramagnetic ?
9. What is biodegradable polymer ? Give one example.
10. Write the names of the monomers of the following polymers :
 (a) Bakelite (b) Nylon - 6,6

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

11. What is doping ? Explain n-type and p-type semi-conductors.
12. Explain the purification of Sulphide ore by froth floatation method.
13. 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 ?
14. Describe the purification of colloidal solutions by Dialysis method with a neat diagram.
15. Write the equations for reactions of chlorine with the following
 - (a) Cold and dilute NaOH
 - (b) Excess NH₃
 - (c) Ca(OH)₂
 - (d) Na₂S₂O₃
16. Explain Werner's theory of Co-ordination compounds.
17. What are Hormones ? Give one example for each of the following :
 - (a) Steroid hormones
 - (b) Polypeptide hormones
 - (c) Amino acid derivatives
18. Explain the mechanism of S_N2 reaction with one example.

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

19.
 - (a) What are Galvanic cells ? Explain the working of Galvanic cells with one example.
 - (b) Write the differences between order and molecularity of a reaction.
20.
 - (a) How is ammonia manufactured by Haber's process ? Explain.
 - (b) How does ozone react with the following :
 - (i) PbS
 - (ii) KI
 - (iii) C₂H₄
 - (iv) NO
21. Explain the following reactions with suitable example :
 - (a) Reimer-Tiemann reaction
 - (b) Cannizaro reaction
 - (c) Aldol condensation
 - (d) Sandmeyer reaction