

223

II

Total No. of Questions – 21

Regd.

Total No. of Printed Pages – 2

No.

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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  $\text{XeF}_4$ .
8. Why  $\text{Zn}^{2+}$  is diamagnetic whereas  $\text{Cr}^{3+}$  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<sup>-1</sup>). 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 NH<sub>3</sub>
  - (c) Ca(OH)<sub>2</sub>
  - (d) Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>
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<sub>N</sub>2 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) C<sub>2</sub>H<sub>4</sub>
  - (iv) NO
21. Explain the following reactions with suitable example :
  - (a) Reimer-Tiemann reaction
  - (b) Cannizaro reaction
  - (c) Aldol condensation
  - (d) Sandmeyer reaction