

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** the 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 “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 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. What is relative lowering of vapour pressure ?
2. Give two examples for zero order Reaction.
3. Give the composition of the following alloys :
(a) Brass (b) Bronze (c) German silver
4. What happens when white phosphorus is heated with conc. NaOH solution in an inert atmosphere of CO₂ ?
5. How is chlorine manufactured by Deacon’s Method ?
6. What is Misch metal ? Give its composition and use.
7. What is PHBV ? How is it useful to man ?

8. What is PDI (Poly Dispersity Index) ?
9. What are analgesics ? How are they classified ?
10. What are antiseptics ? Give examples.

SECTION – B

6 × 4 = 24

Note : Answer any **six** questions :

11. Describe the two main types of semi-conductors and contrast their conduction mechanism.
12. Vapour pressure of water at 293 K is 17.535 mmHg. Calculate the vapour pressure of the solution at 293 K when 25 g of glucose is dissolved in 450 g of water ?
13. Name any four enzyme catalysed reactions.
14. Explain the purification of sulphide ore by Froth Floatation Method.
15. How are XeF_2 and XeF_4 prepared ? Give their structures.
16. Using IUPAC norms, write the systematic names of the following :
 - (i) $[\text{Co}(\text{NH}_3)_6]\text{Cl}_3$
 - (ii) $[\text{Fe}(\text{C}_2\text{O}_4)_3]^{3-}$
 - (iii) $[\text{Fe}(\text{CN})_6]^{4-}$
 - (iv) $[\text{NiCl}_4]^{2-}$
17. What are Hormones ? Give one example for each
 - (i) Steroid Hormones
 - (ii) Polypeptide Hormones
 - (iii) Amino Acid derivatives
18. Which compound in each of the following pairs will react faster in $\text{S}_{\text{N}}2$ reaction with OH^- ?
 - (i) CH_3Br (or) CH_3I
 - (ii) $(\text{CH}_3)_3\text{CCl}$ (or) CH_3Cl

SECTION – C

2 × 8 = 16

Note : Answer any **two** questions :

19. Give the different types of Batteries and explain the construction and working of each type of battery.
20. How is ozone prepared from oxygen ? Explain its reaction with :
 - (i) C_2H_4
 - (ii) KI
 - (iii) Hg
 - (iv) PbS
21. Describe the following :
 - (i) Acetylation
 - (ii) Cannizaro reaction
 - (iii) Cross aldol condensation
 - (iv) Decarboxylation