

Total No. of Questions – 21

Total No. of Printed Pages – 2

Regd.

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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** 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

$6 \times 4 = 24$

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

$2 \times 8 = 16$

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
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21. Describe the following :

(i) Acetylation	(ii) Cannizaro reaction
(iii) Cross aldol condensation	(iv) Decarboxylation