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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** 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 $10 \times 2 = 20$

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 CO_2 ?

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 ?

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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) $[Co(NH_3)_6]Cl_3$ (ii) $[Fe(C_2O_4)_3]^{-3}$
    (iii) $[Fe(CN)_6]^{-4}$ (iv) $[NiCl_4]^{-2}$

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 S_N2 reaction with OH^- ?
    (i) CH_3Br (or) CH_3I
    (ii) $(CH_3)_3CCl$ (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

21. Describe the following :
    (i) Acetylation (ii) Cannizaro reaction
    (iii) Cross aldol condensation (iv) Decarboxylation