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** 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 of "Very short answer type". Each question carries **two** marks. Every answer may be limited to **two** to **three** sentences. Answer all the 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 diagram, wherever necessary for questions in Section – 'B' and 'C'.

SECTION – A $10 \times 2 = 20$

Note :   Answer **all** the questions.

1.   What is Vulcanization of Rubber ?

2.   Name the Monomers present in the following polymers :
     (a)   Bakelite
     (b)   Buna-N

3.   What are Disinfectants ? Give example.

4.   What are Food Preservatives ? Give example.

5.   Give the composition of following alloys :
     (a)   Brass
     (b)   German Silver

6.   What is Primary Battery ? Give example.

7.   How is chlorine manufactured by Deacon's method ?

8. What happens when Cl_2 reacts with dry slaked lime ?

9. Calculate the spin only magnetic moment of Fe^{+2} ion.

10. What are Isotonic Solutions ?

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SECTION – B

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$6 \times 4 = 24$

Note : Answer any **six** questions.

11. State Raoult's Law. Calculate the mole fraction of H_2SO_4 in a solution containing 98% of H_2SO_4 by mass.

12. Derive Bragg's Equation.

13. What are Emulsions ? How are they classified ?

14. Explain the purification of sulphide ore by Froth floatation method.

15. Give the sources of the following Vitamins and name the diseases caused by their deficiency.

    (a) A   (b) D   (c) E   (d) K

16. Explain Werner's theory of Co-ordination compounds with suitable examples.

17. How are XeF_2 and XeF_4 are prepared ? Give their structures.

18. Explain the following reactions :

    (a) Sandmeyer reaction

    (b) Wurtz's Fittig reaction

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SECTION – C

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$2 \times 8 = 16$

Note : Answer any **two** questions :

19. (a) How is Nitric Acid manufactured by Ostwald's process ?

    (b) How does Ozone react with the following :

    (i) PbS   (ii) C_2H_2

    (iii) Ag   (iv) Hg

20. Give a detailed account of the Collision Theory of reaction rates of bimolecular gaseous reactions.

21. (a) Explain the Acidic nature of phenols and compare with that of alcohols.

    (b) With suitable example, write equations for the following :

    (i) Kolbe's reaction

    (ii) Reimer-Tiemann reaction