0223

A

Total No. of Questions – 21
Total No. of Printed Pages – 2

Regd. No.

Part - III
CHEMISTRY, Paper - II
(English Version)

Time : 3 Hours

Max. Marks : 60

SECTION - A

$10 \times 2 = 20$

Note: (i) Answer **ALL** Questions
(ii) Each Question carries **TWO** marks
(iii) All are very short answer type questions.

1. What are isotonic solutions?
2. Explain the terms gangue and slag.
3. Calculate the 'spin only' magnetic moment of $Fe^{2+}_{(aq)}$ ion.
4. What are food preservatives? Give example.
5. NH_3 forms hydrogen bonds but PH_3 does not - Why?
6. What is addition polymer? Give example.
7. What are antacids ? Give example.
8. What is metallic corrosion? Give one example.
9. What is Ziegler-Natta catalyst ?
10. Write the IUPAC names of the following compounds and classify them into primary, secondary and tertiary amines.

i) $CH_3(CH_2)_2NH_2$ ii) $(CH_3CH_2)_2NCH_3$

P.T.O.

SECTION - B

$6 \times 4 = 24$

Note: (i) Answer **ANY SIX** questions.
(ii) Each question carries **FOUR** marks.
(iii) All are of short answer type questions.

11. Derive Bragg's equation.
12. Explain the terms
    (i) Ligand (ii) Coordination number
    (iii) Coordination entity (iv) Central metal atom/ion
13. Give the sources of the following vitamins and name the diseases caused by their deficiency (a) A (b) D (c) E and (d) K
14. A solution of glucose in water is labeled as 10% w/w. What would be the molarity of the solution?
15. Explain the formation of micelles with a neat sketch.
16. Explain the extraction of zinc from zinc blende.
17. Explain the structures of a) XeF_6 and b) $XeOF_4$
18. (a) What are Enantiomers?
    (b) What are ambident nucleophiles?

SECTION - C

$2 \times 8 = 16$

Note: (i) Answer **ANY TWO** questions.
(ii) Each question carries **EIGHT** marks.
(iii) All are long answer type questions.

19. (a) State and explain Kohlrausch's law of independent migration of ions.
    (b) What is "molecularity " of a reaction? How is it different from the 'order' of a reaction? Name one bimolecular and one trimolecular gaseous reactions.
20. How is ozone prepared from oxygen ? Explain its reaction with
    a) C_2H_4 b) KI c) Hg d) PbS
21. Describe the following.
    i) Acetylation ii) Cannizaro reaction
    iii) Cross aldol condensation iv) Decarboxylation