The Place

COLLEGE CODE: CPRE

III

223

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

Regd. No. 2 5 1 1 2 1 6 1 7 6

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

Time : 3 Hours

Max. Marks : 60

Note :- Read the following instructions carefully.

(i) Answer all the questions of Section - A. Answer any six questions in Section - B and any two questions in Section - C.

(ii) 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 2 or 3 sentences. Answer all these questions at one place in same order.

(iii) 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.

(iv) 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.

(v) Draw labelled diagrams, wherever necessary for questions in Section - B and Section - C.

SECTION – A

10×2=20

Note :- Answer ALL questions :

1. Name two most familiar antioxidants used as food additives.
2. What are Antacids? Give example.
3. What is PHBV? How is it useful to man?
4. What are the repeating monomeric units of Nylon-6 and Nylon-6, 6?
5. State Raoult's Law.
6. What is the difference between a mineral and an ore?
7. State the Faraday's first law of electrolysis.

8. Write the reactions of F_2 and Cl_2 with water.
9. What happens when Cl_2 reacts with dry slaked lime?
10. Aqueous Cu^{2+} ions are blue in colour, whereas Aqueous Zn^{2+} ions are colourless. Why?

SECTION – B

6×4=24

Note :- Answer ANY SIX questions :

11. How are XeF_2 and XeF_4 prepared? Give their structures.
12. What are different types of Adsorptions? Give any four differences between characteristics of these different types.
13. Derive Bragg's equation.
14. A solution of glucose in water is labeled as 10% (w/w). What would be the molarity of the solution?
15. Explain briefly the extraction of aluminium from bauxite.
16. Explain Werner's theory of coordination compounds with suitable examples.
17. What are Hormones? Give one example for each.
    (i) Steroid hormones (ii) Polypeptide hormones and (iii) Amino acid derivatives
18. Explain the mechanism of Nucleophilic bimolecular substitution (SN^2) reaction.

SECTION – C

2×8=16

Note :- Answer ANY TWO questions :

19. (i) Write the chemical reactions that occur in the manufacture of nitric acid.
    (ii) How is ozone prepared from oxygen? Explain its reaction with (a) C_2H_4 (b) KI
20. (a) Describe the salient features of the collision theory of reaction rates of bimolecular reactions.
    (b) State and explain Kohlrausch's law of independent migration of ions.
21. Describe the following reactions -
    (a) Carbylamine reaction
    (b) Gattermann reaction
    (c) HVZ reaction
    (d) Aldol condensation