

Total No. of Questions—21

Total No. of Printed Pages—3

Regd. No.

--	--	--	--	--	--	--	--	--	--

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 from Section B and ANY TWO questions from Section C.
- (ii) 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 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, question 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. Define osmotic pressure.
2. What are antibiotics ? Give an example.
3. What is PHBV ? How is it useful to man ?

4. A solution of CuSO_4 is electrolysed for 10 minutes with a current of 1.5 amperes. What is the mass of copper deposited at the cathode.
5. What are food preservatives ? Give an example.
6. What is Ziegler-Natta catalyst ?
7. Why does NH_3 act as a Lewis base ?
8. What is flux ? Give an example.
9. Which chemical compound is formed in the brown ring test for nitrate ion ? Write the formula.
10. What is an alloy ? Give an example.

SECTION B

6×4=24

Note :—Answer any SIX questions.

11. Derive Bragg's equation.
12. What is catalysis ? How is catalysis classified ? Explain each type of catalysis with an example.
13. Explain the following with examples :
 - (i) Calcination
 - (ii) Roasting.
14. (a) Define mole fraction.
(b) Calculate the molarity of a solution containing 10 g of NaOH in 500 ml of solution.
15. How are XeF_2 and XeF_6 prepared ? Write their structures.
16. Explain Werner's theory with example.
17. What are hormones ? Give *one* example for each of the following :
 - (i) Steroid hormones
 - (ii) Polypeptide hormones
 - (iii) Amino acid derivatives.
18. Explain the following reactions :
 - (a) Wurtz-Fittig reaction
 - (b) Friedel-Crafts reaction.

SECTION C

2×8=16

Note :—Answer any TWO questions.

19. Give a detailed account of the collision theory of reaction rates of Bimolecular gaseous reaction.
20. (a) How does ozone react with the following :
- (i) PbS
 - (ii) C_2H_2
 - (iii) Ag
 - (iv) Hg.
- (b) How is chlorine prepared in the laboratory ? Explain the reactions of chlorine with the following :
- (i) Cold dil. NaOH
 - (ii) Hot con. NaOH.
21. Explain the following reactions with suitable examples :
- (a) Williamson's synthesis
 - (b) Reimer-Tiemann reaction
 - (c) Carbyl amine reaction
 - (d) Diazotization.