0223

A

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 :

(1) Answer **ALL** questions of Section A. Answer any **SIX** questions in Section B and answer any **TWO** questions in 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* or *three* sentences. Answer all these 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 diagrams wherever necessary for questions in Sections B and C.

SECTION A

10×2=20

Note :—Answer **ALL** the questions.

1. Define Osmotic Pressure.

2. State Faraday's First Law of Electrolysis.

3. What is the role of cryolite in the metallurgy of Aluminium ?

4. What is 'Tailing of Mercury' ? How is it removed ?

5. Explain the structure of XeO_3.

6. $CuSO_4 \cdot 5H_2O$ is blue in colour whereas anhydrous $CuSO_4$ is colourless. Why ?

7. Write the names of monomers for the following polymers :
   (*a*) Bakelite
   (*b*) Teflon.

8. What is biodegradable polymer ? Give *one* example of a biodegradable polymer.

9. What is Zwitter ion ? Give an example.

10. What are tranquilizers ? Give an example.

SECTION B

6×4=24

Note :—Answer ANY SIX questions.

11. Explain Schottky and Frenkel defects.

12. What is relative lowering of vapour pressure ? How is it useful to determine the molar mass of a solute ?

13. What are Emulsions ? How are they classified ?

14. Write any *two* ores with formulae of the following metals :
   (*a*) Aluminium
   (*b*) Iron.

15. Write the IUPAC names of the following co-ordination compounds :
   (*a*) $\left[Co(NH_3)_4(H_2O)Cl\right]Cl_2$
   (*b*) $\left[Ni(CO)_4\right]$
   (*c*) $K_3\left[Fe(CN)_6\right]$
   (*d*) $K_3\left[Al(C_2O_4)_3\right]$.

16. (*a*) What is denaturation of proteins ?
   (*b*) What are food preservatives ? Give example.

17. (*a*) Write the isomers of the compound having molecular formula C_4H_9Br.
   (*b*) What are Enantiomers ?

18. Explain the following reactions with equations :

(*a*) Hofmann bromamide degradation

(*b*) Sandmeyer reaction.

SECTION C

2×8=16

Note :— Answer **ANY TWO** questions.

19. (*a*) What are galvanic cells ? Explain the working of a galvanic cell with a neat sketch taking Daniel cell as example.

(*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. (*a*) Explain in detail the manufacture of Sulphuric acid by contact process.

(*b*) Explain the reactions of Ammonia with :

(*i*) $ZnSO_4$ (aq)

(*ii*) AgCl (s).

21. Explain the following reactions with equations :

(*a*) Kolbe's reaction

(*b*) Reimer-Tiemann reaction

(*c*) Williamson synthesis

(*d*) Esterification.