223

I

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***

Note : Read the following instructions carefully.

(i) Answer **all** the questions of **Section-A**. Answer **ANY SIX** questions in **Section-B** and answer **ANY TWO** questions in **Section-C**.

(ii) In **Section-A**, questions from Sl. 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 the same order.

(iii) In **Section-B**, questions from Sl. 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 Sl 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 **Sections - B** and **C**.

SECTION - A

10×2=20

Note : *Answer all the questions.*

1 Give the complete name for PHBV. How it is useful ?

2 What is Insulin ?

3 What is Cholesterol ?

4. Define Anti-histamines. Give one example.

5. What are Artificial Sweetening agents ? Give one example.

6. What is Brownian movement ?

7. What is Emulsifying agent ? Give one example.

8. Give the composition and uses of Nichrome.

9. What is Gibb's Energy ?

10. State Hess's Law.

SECTION - B

6×4=24

Note : *Answer* ***ANY SIX*** *questions.*

11. Explain Schottky and Frenkel defects in solids.

12. State and explain Raoult's law.

13. State Faraday's laws of Electrolysis.

14. Define pH. Find the pH of 0.05 M $Ba(OH)_2$ aqueous solution.

15. How is Bauxite purified by Serpeck's process ?

16. Give balanced equations and principle involved in the manufacture of Nitric Acid (HNO_3) by Ostwald's process.

17. Calculate the EAN of the following central metals in their respective complexes.
    (a) $[Cu(NH_3)_4](OH)_2$ *(b)* $K_4[Fe(CN)_6]$

18. Explain :
    (a) Clemmensen reduction *(b)* Williamson's Synthesis.

SECTION - C

2×8=16

Note : *Answer* ***ANY TWO*** *questions.*

19. State Le-chatelier's principle and apply it to the following equilibrium.
    $N_{2\,(g)} + 3H_{2\,(g)} \rightleftharpoons 2NH_{3\,(g)}$; $\Delta H = -92.0$ KJ.

20. *(a)* Give any three oxidation reactions of Ozone (O_3) with chemical equations.

    (b) How is Fluorine (F_2) prepared by Whytlaw- Gray method ? Draw a diagram.

21. Write the preparation method of Nitro-Benzene. Explain any three reduction properties of Nitro-Benzene with equations.
