

Total No. of Printed Pages: 1

SUBJECT CODE NO: -BB-2390
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. (CBCGS)(Pattern 2022) T.Y SEM V
Examination November / December 2024
Chemistry-XVIII Physical Chemistry

[Time: 1:30 Hours]**[Max. Marks:40]**

N. B

Please check whether you have got the right question paper.

- 1) Attempt all questions.
- 2) Illustrate your answer with suitable labelled diagram.

Q.1 Solve the following.

10

- a) Define irreversible cells with examples
- b) Draw a labelled diagram of Weston standard cell.
- c) Define non-electrolytes with examples
- d) Write relation between Vant Hoff factor and degree of dissociation of electrolyte.
- e) Define Rault's law and Henry's law.

Q.2 Solve any four of the following.

12

- a) Explain metal, metal ion electrode with example.
- b) Write short note on redox titration
- c) Define the term osmosis and osmotic pressure.
- d) What is electrophoresis. Give its different types.
- e) What is the effect of impurity on partially miscible liquids?

Q.3 Solve any two of the following.

8

- a) How emf of a cell is measured?
- b) Calculate molecular mass of organic acid, if 2 gm of it is dissolved in 25 gm of organic solvent, shows a depression in freezing point (ΔT_f) 1.62K.
($K_f = 4 \cdot 9 \text{ kg/mole}$)
- c) Discuss get electrophoresis.

Q.4 Solve any two of the following.

10

- a) How potentiometric titration is useful in acid-base titration.
- b) Explain physical vapour deposition method for the synthesis of nano material.
- c) Explain phase diagram of phenol water system.
