

Question Bank (G scheme)

Subject: **PHYSICAL CHEMISTRY & MATERIAL OF CONSTRUCTION**

Subject code: **17423**

Semester: **Fourth**

Course: **CH**

UNIT TEST I

Chapter 1. Thermodynamics (24 MARKS)

3 marks questions:

1) Define the followings:

- a) Closed system
- b) Isothermal reaction.
- c) Adiabatic process.

2) Define the terms:

- a) System
- b) Surroundings
- c) Cyclic process

3) Define first law of thermodynamics.

4) Define second law of thermodynamics

5) Define third law of thermodynamics

6) Explain Zeroth law.

4 marks questions:

- 1) Explain the difference between extensive and intensive properties.
- 2) Explain the terms enthalpy and internal energy with the help of first law of thermodynamics.
- 3) Distinguish between reversible and irreversible process.

Chapter 2. Phase rule (10 MARKS)

3 marks questions:

1) Define the followings:

- a) Phase
- b) Component
- c) Degree of freedom.

2) Define the phase rule.

4 marks questions:

- 3) Explain Gibb's phase rule.
- 4) Explain phase diagram for water system.
- 5) Explain phase diagram for sulphur system.

Chapter 3. Adsorption and colloids: (20 MARKS)

3 marks questions

1) Define the term:

- a. adsorption.
- b. adsorbent.
- c. adsorbate.

2) Write the types of adsorption.

3)What is adsorption isotherm?

4 marks questions:

4)Explain the Freundlich adsorption isotherm.

5)Explain the Langmuir adsorption isotherm.

6) What are the applications of adsorption?

7)Define the colloids and types of colloids.

8)Differentiate between Lyophilic and lyophobic colloidal solution.

9)Write the methods of preparation of colloidal solutions.