



**SECOND YEAR B.PHARM. EXAM**  
**PAPER II – PHARMACEUTICAL ANALYSIS & PHYSICAL**  
**CHEMISTRY**

*Q.P. Code: 564257*

**Time: Three Hours**

**Maximum: 100 marks**

**Answer All Questions**

**Answer Section-A and B in separate Answer Book**

**SECTION-A**

**(Pharmaceutical Analysis)**

**I. Elaborate on:**

**(1 x 20 =20)**

- 1.a) What is buffer solution and explain about the buffer mixture of a weak acid and weak base and its salts.
- b) Explain in detail about the Non aqueous titrations.

**II. Write Notes on:**

**(4 x 5 =20)**

1. Write a note on diazotization titrations.
2. Explain complexometric titrations.
3. Write a note on Mohr's method and Fajan's method.
4. Write a note on standardization of perchloric acid.

**III. Short Answers:**

**(5 x 2 =10)**

1. Define precision.
2. Define iodimetry.
3. Define law of mass action.
4. Calibration of volumetric apparatus.
5. Choice of indicators.

**SECTION-B**  
**(Physical Chemistry)**

**I. Elaborate on:**

**(1 x 20 =20)**

1. a) Define rate of reaction clarify with suitable examples and derive the equation for first order reaction.
- b) Explain Hess's law of constant heat of summation.

**II. Write Notes on:**

**(4 x 5 =20)**

1. Define Colligative properties.
2. Joule-Thomson effect.
3. Define solutions with its types.
4. Write about the factors affecting the rate of chemical reaction.

**III. Short Answers:**

**(5 x 2 =10)**

1. Trouton's rule.
2. Define Phase rule.
3. Freundlich adsorption isotherm.
4. Enthalpy of combustion.
5. Second law of thermodynamics.