

**Prabhat Kumar College Contai**

Class: **SEM II** Paper: **DSC-1B** (Atomic Structure, Bonding, general organic chemistry & aliphatic hydrocarbons)

**PART-A**

Answer any **one** question.

- Q 1. Establish the relationships between  $K_p$ ,  $K_c$  and  $K_x$  for reactions involving ideal gases.
- Q 2. Write a note on Laws of Thermodynamics.
- Q 3. Write a note on Aldol Condensation and Cannizzaro's reaction
- Q 4. Write a note on Clemensen reduction and Wolff Kishner reduction
- Q 5. Write a note on Reimer-Tiemann and Gattermann-Koch reaction
- Q 6. Describe ionic product of water, common ion effect, pH scale and buffer solution.

**PART-B (Practicals)**

Answer any **one** question.

- Q 1. Describe the principle and procedure of study of the solubility of benzoic acid in water and determination of  $\Delta H$
- Q 2. Describe the principle and procedure of Purification of organic compounds by crystallization (from water and alcohol)
- Q 3. Describe the Preparation of buffer solutions (Sodium acetate-acetic acid) and measure its pH.

**Answer script should be sent in the following email**

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