Ref. No. : Pharm/T/213/2017 (OLD) (S)

B. PHARM. 2ND YR. 1ST. SEM. SPECIAL SUPPLE EXAM.-2017 (OLD)

Subject:PHARMACEUTICAL CHEMISTRY- IV **Time : 3 hrs** **Full Marks : 100**

Answer ANY FIVE QUESTIONS. Answers to all parts of a question should be at the same place of the answer-script and in the same order as they appear in the question paper.

1. Give the postulates of kinetic theory of gases. Show that $PV = 1/3\ mnc^2$. Show the validity of Boyles' law, Charles' law and Graham's law from the kinetic theory. [6 + 8+6

2. Write a note on Thermochemistry and applications of Thermochemistry. [15+5

3. (a) Define: Enthalpy, Gibb's free energy, Activity [6
   (b) Discuss Clausius-Clapeyron equation, van't Hoff equation [8+6

4. Write notes on:
   (i) Activity and activity coefficient
   (ii) Transference number
   (iii) Degree of dissociation
   (iv) Equivalent conductance
   [4 x 5

5. Write on buffer equation. Discuss the factors influencing pH of buffer solutions. Define buffer capacity. What is the maximum buffer capacity? [5+5+5+5

6. Derive species concentrations of a polyprotic acid H_nA in solution as a function of pH. Explain with examples. [20