



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions: (6x5=30)

- 1 What is rate constant? Give its units for zero order, 1st order and 2nd reaction.
- 2 What is difference between dialysis and electro-dialysis?
- 3 What is adsorption? Discuss Freundlich adsorption isotherm.
- 4 What is surface tension? How can it be determined experimentally?
- 5 Derive relation between Gibbs energy change, entropy change and enthalpy change.
- 6 Briefly describe dialysis for purification of colloidal system.

Q.2. Answer the following questions. (3x10=30)

- 1 What is entropy? Discuss the volume, temperature and pressure dependence of entropy of an ideal gas.
- 2 What is rate law? Derive kinetic equation for 1st order reaction.
- 3 What is catalysis? Discuss enzyme catalysis in detail.