



Give short answers of the following:

(6x5=30)

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

Give brief answers the following questions.

(3x10=30)

- Q.7 What is heat capacity? Discuss heat capacities of gases in detail.
- Q.8 Derive kinetic equation for first order reaction.
- Q.9 What is adsorption isotherm? Derive and discuss Langmuir adsorption isotherm.