

University of Baghdad
College of Science
Department of Chemistry
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Graduate Studies Ph.D
2nd attempt
Competitive Exam.
Subject: physical chem..

Explain the following using suitable equations and relations:

- 1- The effect of catalysis on rate of reaction?
- 2- The composition of Saturated Calomel Electrode, is this electrode is a reverse electrode for Hg or Cl⁻ ions.
- 3- Lambert –beers law in UV-spectroscopy application.
- 4- Joblonski diagram in photo chemistry.
- 5- Conductivity titration curve, when 0.1N HCl added to 0.1N NaOH solution.
- 6-Dalton`s law for a mixture of gases.
- 7- How Arrhenius equation reflect the temperature dependence on a reaction rate.
- 8-The energy spacing between vibrational energy levels for one mole of hydrogen.
- 9-The units of rate constant for first, second and zero orders reaction, what is the n-order rate equation and 1st –order rate equation.
- 10- The different in the thermodynamic parameters of mixing between ideal and non-ideal solutions, which one have zero enthalpy change (two component system).

Best wishes