## PHYSICAL CHEMISTRY( BS 106)

## BE (MBA) 2<sup>ND</sup> YEAR

Mid-term Semester Exam

Max. Marks: 18 Time: 1h

- Q1. (a) Derive an expression for rate constant of 1<sup>st</sup> order reaction. (5)
  - (b) What are the units of first order rate constant. (1)
  - (c) In the reduction of nitric oxide ,50% of the reaction was completed in 140secs when initial pressure was 258mm of Hg and in 224 secs when initial pressure was 202 mm of Hg. Find the order of the reaction . (4)
- Q2. (a) Raoult's law is a special case of Henry's law .Explain . (3)
  - (b) The heat of vaporization of water at 100° C is 40.58KJmol<sup>-1</sup>. At what temperature will a solution containing 5.60 g of glucose per 1000g of water boil .(5)