 **UNIVERSITY OF THE PUNJAB**

First Semester 2015 Roll No. ................

PAPER:Chemistry-**I**(Physical Chemistry) TIME ALLOWED:2 hrs. & 30 mins. Course Code:CHEM-101 / CHM-11020 MAX. MARKS:50

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**S**ection II

Question No 2: Write short answer of the following questions (2X10=20)

**a)** What is meant by Auto Catalysis?

**b)** Give differences between order and molecularity.

**c)** What is meant by lowering of vapour pressure?

**d)** Define Maen Free Path.

**e)** What is "Tyndal Cone Effect"?

**f)** Explain the term "Magnetic Susceptibility".

**g)** Write briefly about Macromolecules.

**h)** Describe the effect of temperature on destribution of velocities.

**i)** Give differences between physical and chemical adsorption.

**j)** How will you derive the units of rate constant and half life for third order reaction.

**Section III** (3x10=30)

**Q.3 a)** Explain collision theory of unimolecular reaction. (5)

**b)** Give mathematical treatment of elevation of boiling point. (5)

**Q.4 a)** Explain Langmuir adsorption isotherm. (6)

**b)** The viscosity of hydrogen at 0oC is 8.41x10-4 Kgm-1s-1. Calculate the mean free path of

H2 at STP. (4)

**Q.5 a)** What are Colloids? (2)

**b)** How you distinguish between lyophilic and lyophobic sols? Why the lyophilic sola are

called reversible sols? (4)

**c)** Describe "Second Law of Thermodynamics". (4)