

Hemchandracharya North Gujarat University , Patan
Bachelor of Vocation -Pharmaceutical Chemistry

End Term Examination, June, 2015

PC 212 -Physical Chemistry

Time: 2 hrs

Date: 2/6/15

Maximum marks: 50

Q.1 Answer all questions. Each question carries 1 mark .

(10*1=10 Marks)

1. In general the viscosity _____ with temperature.
a) Decreases b) Increases c) remains the same d) None
2. A liquid rises in capillary tube is due to _____
a) Surface tension b) viscosity c) osmosis d) effusion
3. Mathematical relation for first law of thermodynamics is
a) $\Delta E = q - w$ b) $\Delta E = 0$ c) $\Delta E = q$ d) all
4. The phase rule was first discovered by
a) Nerst b) Gibbs c) Arrhenius d) Le chatelier
5. write zero law of thermodynamics
6. write equation of quantum efficiency
7. _____ C is absolute zero temperature
8. write equation for half life time for first order reactions
9. write definition of catalyst
10. In a photochemical reaction each molecule of the reacting substance absorbs radiation causing the reaction and is activated to form products. This is the statement of
a) Lambert's – Beer's Law b) Grothus – Draper law c) Stark – Einstein Law d) Lambert's law

Q. 2 Answer any 5 questions. Each question carries 6 marks.

(5*6=30 Marks)

1. Discuss the mechanism of enzyme catalyzed reactions.
2. Explain in detail first law of thermodynamics and its mathematical representation.
3. How would you explain very high and very low quantum efficiencies of some photochemical reactions.
4. Derive the Lambert-Beer law.
5. What is conductance ? How it can be measured?
6. Write the mathematical expression for quantum efficiency.

Q.3 Answer any 1 question. Each question carries 10 marks.

(1*10=10 Marks)

1. Explain term viscosity write method for viscosity measurement by using Ostwald's viscometer
 2. Write a note on perachor.
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