Seat No: _____   Enrollment: No:_____

PARUL UNIVERSITY
FACULTY OF PHARMACY
B.Pharm., Winter 2017-18 Examination

Semester: 2   **Date: 16/12/2017**
Subject Code: 08101151   **Time: 10:00 am to 1:00 pm**
Subject Name: Pharmaceutical Chemistry-II (Physical Chemistry)   **Total Marks: 75 marks**

Instructions

1. Figures to the right indicate maximum marks.

2. Make suitable assumptions wherever necessary.

Q.1   Essay Type Questions. (any 2 out of 3) (10 Mark Each)   **(20)**
1. What is first order reaction? Derive its equation for rate constant and half life time.
2. What is Optical rotation? Describe the working principle behind polarimeter with suitable diagram and write its application.
3. Define term viscosity.Write its formula and describe the factors affecting viscosity in detail.

Q.2   Short Essay Type Questions. (any 7 out of 9) (5 Mark Each)   **(35)**
1. Enlist Methods of nuclear radiations (Measurement of radioactivity) and describe them in detail.
2. Describe Jablonski diagram.
3. Enlist Colligative properties and describe it in detail.
4. What is Debye-Huckel theory? Write in detail.
5. Define surface tension. Describe all the methods of determining surface tension of a liquid in Brief.
6. Describe Collision theory of reaction rate in detail.
7. What is phase rule? Discuss Phase rule for one component system of industrial importance.
8. Define refractive index with its formula.Write about Molar refactive index.Give application of refractive index.
9. What is partition coefficient? Write its application in detail.

Q.3   Short Answers. (2 Mark Each)   **(20)**
1. Distinguish between molecularity and order of reaction.
2. Distinguish between Homogenous and Heterogenous catalysis.
3. Define First and Third law of thermodynamics.
4. What is solution? Classify it.
5. Give characteristic of enzyme catalysis.
6. Define enthalapy and entropy.
7. Distinguish between Reaction rate & Rate constant of a reaction.
8. Write a note on: Pseudo-first Order reaction.
9. Define Ideal and Non-ideal solutions.
10. Define Quantum efficiency with its formula.