PARUL UNIVERSITY
FACULTY OF PHARMACY
B.Pharm. Winter 2019-20 Examination

Semester: 2	Date:22/11/2019
Subject Code: 08101151	Time:02:00pm to 05:00pm
Subject Name: Pharmaceutical Chemistry-II (Physical Chemistry)	Total Marks: 75

Instructions:
1. Figures to the right indicate full marks.
2. Make suitable assumptions wherever necessary.

Q.1 Essay type Questions. (Any 2 out of 3) (10 marks each) (20)
1. Define Surface tension and derived equation for measurement of it by any one method.
2. Give a statement of Raoult's law and derive its equation for lowering of vapor pressure.
3. Explain: Phase equilibria and Phase rule in details with example.

Q.2 Short Essay type Questions. (Any 7 out of 9) (5 marks each) (35)
1. Define viscosity and explain it with an equation.
2. Describes some Photosensitization reactions with examples.
3. Give the statement of First, Second and Third laws of Thermodynamics.
4. Give some examples of first and second order reactions.
5. Explain in brief about the Debye-Huckel theory.
6. Write principle and application of Geiger–Müller counter.
7. Give the explanation of the Carnot cycle.
8. Give a brief note on Acid-base catalysis.
9. State and explain Henry's Law. Enlist its limitations.

Q.3 Answer in short. (2 marks each) (20)
1. Draw the diagram of Polarimeter.
2. Define and explain Partition co-efficient.
3. Give some examples of One and two component systems.
4. Draw and explain the Jablonski diagram.
5. Explain: Stark Einstein law in brief.
6. Differentiate: Nuclear Fusion and Nuclear fission.
7. Define: Parachor and explain it in brief.
8. Define: Refractive index explains it in brief.
9. Differentiate: Isothermal and adiabatic process
10. Write applications of radio pharmaceuticals.