

**PARUL UNIVERSITY**  
**FACULTY OF PHARMACY**  
**B.Pharm. Summer 2017-18 Examination**

**Semester: 2****Subject Code: 08101151****Subject Name: Pharmaceutical Chemistry-II (Physical Chemistry)****Date: 06/06/2018****Time: 10.00 am to 1.00 pm****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. What are different types of catalysis? Write a note on characteristic of homogenous and heterogeneous catalyst.
2. What are Colligative properties? Explain any two in detail.
3. What is radioactivity? Explain different types of radiations emitted by radioactive substances. Write a note on Nuclear reaction.

**Q.2 Short Essay type Questions. (Any 7 out of 9) (5 marks each) (35)**

1. Discuss Debye-Huckel theory in detail.
2. Explain principle of Oswald's Viscometer.
3. Write a note on carnot cycle.
4. Write a detail note on first law of thermodynamics.
5. State and explain Roul't's law of dilute solution.
6. Write a note on Parachlor.
7. Draw Jablonski diagram. State and explain Lambert- Beer law of Photochemistry.
8. Write a note on Giger Muller counter.
9. Enlist various methods for determination of order of kinetics. Discuss any two methods.

**Q.3 Answer in short. (2 marks each) (20)**

1. Enumerate methods for determination of surface tension.
2. Differentiate between Ideal and real solution.
3. Define viscosity. Write units used to express viscosity.
4. What is phase rule?
5. Distinguish between Reversible and irreversible process
6. Explain term autocatalytic reaction with example.
7. State zeroth law of thermodynamics.
8. State and explain Henry's law.
9. Prove that half-life of first order reaction is independent of the initial concentration.
10. Enlist the Application of radioactivity.