Seat No: _____ Enrollment No:_____

PARUL UNIVERSITY
FACULTY OF PHARMACY
B.Pharm. Summer 2018-19 Examination

Semester: 8 **Date: 05/04/2019**
Subject Code: 08101453 **Time: 10:00 AM to 1:00 PM**
Subject Name: Dosage Form Design **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. Enlist and explain in detail the chemical properties observed during preformulation study.
2. Explain in detail physico-chemical factors affecting in the design of a controlled drug delivery system.
3. Describe different theories of dissolution.

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

1. What are the essential components of osmotically controlled drug delivery system?
2. What are the various ways by which controlled drug release through parenteral formulations can be attained?
3. Define Preformulation. Write a note on physicochemical properties related to solubility study in preformulation.
4. Describe various techniques for enhancement of solubility of drug.
5. Describe classification, properties and characterization of polymers.
6. List out various types of dissolution apparatus as per pharmaceutical compendia and explained Type I and II in detailed.
7. Draw neat and clean diagram of plasma drug profile versus time and briefly explain difference between immediate release, sustained release and controlled release profile.
8. Write a note on factors affecting on dissolution.
9. Classify and describe the various components of Transdermal drug delivery systems.

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

1. List out advantages and disadvantages of controlled drug delivery system.
2. Explain in brief importance of dissolution study.
3. Mention the applications of Biodegradable polymers.
4. Define Shelf-life and Half-life. Give equation for first order kinetics.
5. List out different types of formulation additives used in the formulation of tablet. Give example of each.
6. Explain in brief Matrix and Reservoir system.
7. Define Polymerization and Recemization.
8. Explain in brief concept of similarity and dissimilarity factors.
9. Discuss importance of preformulation studies in formulations of dosage form.
10. Classify Gastro –retentive drug delivery with example.