HDY-014-003703 Seat No. _____

# M. P. M. (Sem. VII) Examination

**November / December – 2017**

## Dosage Form Design - I

**Faculty Code : 014**
**Subject Code : 003703**

Time : **3** Hours] [Total Marks : **80**

**Instructions :** (1) Answer and tie both the sections separately.
(2) Figures to the right indicates marks.
(3) Answer any three (3) questions from each section.
(4) Que.- One (1) and Que. Five (5) are compulsory.
(5) Draw neat and clean diagrams as required.

## SECTION - I

**1** Answer any **seven** out of given ten questions : **7×2=14**

(a) Define Sink Condition and how it can be achieved?
(b) What do you mean by Intrinsic Dissolution Rate?
(c) Define the following terms :
  (1) Crystal Habit
  (2) Internal Structure
(d) Give the significance of plasma drug concentration measurement.
(e) Give the name of Dissolution apparatus which is used for lower soluble drug.
(f) Define Biodegradable polymers and give examples of it.
(g) Define :
  (i) Cmax
  (ii) Tmax and
  (iii) AUC
(h) Enlist the different types of Pharmacokinetic models.
(i) Comment: Time required for dissolution of drug from tablet is more as compared to the granules.
(j) What do you mean by Non Linear Pharmacokinetics?

2 Answer the following :

(a) Explain the various theories of Dissolution. **7**

(b) Define polymorphism and explain various methods to identify the polymorphism. **6**

3 Answer the following :

(a) Enumerates the type of Dissolution apparatus and explain any one in detail with labelled diagram. **7**

(b) Explain effect of pKa and pH on absorption parameter. **6**

4 Answer the following :

(a) Define Preformulation. Write a note on physicochemical properties related to solubility study in Preformulation. **7**

(b) Explain the various factors affecting Dissolution of Drug. **6**

## SECTION - II

5 Answer Any **two** out of given three questions : **2×7=14**

(a) Write a brief note on BCS Classification.

(b) Write a note on one compartment open model.

(c) Explain Wagner-Nelson and Loo-Riegelman method.

6 Answer the following :

(a) Explain the various chemical properties of drugs affect the stability along with their corrective action. **7**

(b) Describe the various mechanisms of Passage of drugs across biological barriers. **6**

7 Answer the following :

(a) Explain Michaeles Menten Equation. **7**

(b) Write a brief account on plasma protein binding. **6**

8 Answer the following :

(a) Define pharmacokinetic model. Explain the mammillary model. **7**

(b) Explain Patients and Pharmaceutical related factors affecting the absorption of drug. **6**