



JAH-1612020701070200 Seat No. _____
MPM (Sem. VII) Examination
November - 2019
Dosage Form Design-I

Time : 3 Hours]

[Total Marks : 80

Instructions :

1. Answer and tie both the sections separately.
 2. Figures to the right indicate 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.
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- 1 Answer any SEVEN out of given TEN questions : **7×2=14**
 - (a) Define Bioavailability.
 - (b) Define: Distribution coefficient.
 - (c) What is the importance of loading dose ?
 - (d) Define : (i) AUC and (ii) Cmax.
 - (e) What do you mean by sink condition and how it can be achieved it ?
 - (f) Enlist the cellulosic derivative polymers and give the uses of HPMC.
 - (g) Give the role of Crystallinity in Preformulation.
 - (h) What is the importance of t_{1/2} in design and development of a dosage form ?
 - (i) Define biopharmaceutics and give its objectives.
 - (j) What do you mean by BDDCS ?

 - 2 Answer the following :
 - (a) Enumerates the type of Dissolution apparatus and explain any one in detail with labelled diagram. **7**
 - (b) Write a brief account on Michaelis Menten Equation. **6**

 - 3 Answer the following :
 - (a) Write a note on one compartment open model. **7**
 - (b) Explain Latin square cross over design in Bioequivalence study. **6**

- 4 Answer the following :
- (a) Write a brief note on factors affecting on absorption of drug. 7
 - (b) Define Intrinsic dissolution rate. Discuss factors affecting rate of dissolution. 6

SECTION - II

- 5 Answer any TWO out of given THREE questions : 2×7=14
- (a) Write a brief note on BCS Classification.
 - (b) Explain the various chemical properties of drugs affect the stability along with their corrective action.
 - (c) Define polymorphism and explain various methods to identify the polymorphism.
- 6 Answer the following.
- (a) Explain the physiologic barriers to distribution of drugs. 7
 - (b) Write a note on similarity factor and dissimilarity factor. 6
- 7 Answer the following :
- (a) Describe the various mechanisms of Passage of drugs across biological barriers. 7
 - (b) What do you understand by prodrug ? How do they help in designing a better dosage form ? 6
- 8 Answer the following :
- (a) Explain in detail about Non-Linear Pharmacokinetics. 7
 - (b) Discuss various theories of dissolution. 6
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