

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM - SEMESTER- 7 EXAMINATION – SUMMER -2019

Subject Code: 2270001

Date: 06-05-2019

Subject Name: Dosage form Design I

Time: 02:30 PM TO 05:30 PM

Total Marks: 80

Instructions:

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

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|-------------|--|-----------|
| Q.1 | (a) Define preformulation. Write a note on physicochemical properties related to solubility study in preformulation. | 06 |
| | (b) Explain effect of pKa and pH on absorption parameter. | 05 |
| | (c) Enumerate the drug degradation pathways and discuss Hydrolysis in detail. | 05 |
| Q.2 | (a) Explain world climatic zones as per ICH guidelines. | 06 |
| | (b) Discuss the effect of containers and closures on stability of pharmaceuticals. | 05 |
| | (c) What do you understand by prodrug? Give its applications for improving stability of drug. | 05 |
| Q.3 | (a) Enlist factors affecting gastro intestinal absorption. Discuss in detail effect of gastric emptying time on drug absorption. | 06 |
| | (b) Write a short note on kinetics of protein-drug binding | 05 |
| | (c) Discuss Matrixing and Bracketing Techniques | 05 |
| Q.4 | (a) What do you understand by first pass metabolism? How would you avoid it? | 06 |
| | (b) Write a note on similarity factor and dissimilarity factor. | 05 |
| | (c) Enlist the theories of dissolution. Explain in detail Film Theory. | 05 |
| Q.5 | (a) <i>“Hydrophylicity and lipophylicity property of a drug decide its absorption”</i>
Comment with justification. | 06 |
| | (b) Write a note on pharmaceutical excipients used as tablet binder and granulating agent. | 05 |
| | (c) Explain various methods used for enhancement of bioavailability. | 05 |
| Q. 6 | (a) Discuss the regulatory requirements for conduction of bio-equivalence studies. | 06 |
| | (b) Write a note on volume of distribution. | 05 |
| | (c) Explain renal clearance. | 05 |
| Q.7 | (a) Classify the polymers. Discuss in brief about polymer properties. | 06 |
| | (b) Write a note on Biodegradable polymers. | 05 |
| | (c) Enlist the cellulosic derivative polymers and discuss its Phthalate derivatives. | 05 |
