

GUJARAT TECHNOLOGICAL UNIVERSITY
B.Pharm - SEMESTER-VII • EXAMINATION – WINTER-2017

Subject Code: 2270001

Date: 02-11-2017

Subject Name: Dosage Form Design-I

Time: 10:30 am to 01:30 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) | Explain the influence of chemical properties of drugs on formulation and stability of the products. | 06 |
| | (b) | Discuss theoretical aspects for determining solubility and permeability of the drug and its assessment. | 05 |
| | (c) | Enlist additives used in tablet dosages form. Discuss the anti frictional agents. | 05 |
| Q.2 | (a) | Write a note on prodrugs. | 06 |
| | (b) | Effect of physical properties of drug like physical form, particle size and shape on formulation, stability and bioavailability. | 05 |
| | (c) | Write a note on Biodegradable polymers. | 05 |
| Q.3 | (a) | Explain the role of biopharmaceutics in formulation development. | 06 |
| | (b) | Write a note on polymers used for achieving modified drug release. | 05 |
| | (c) | Explain various types of equivalence. How Latin square cross over design works? | 05 |
| Q.4 | (a) | Write a note on factors affecting drug absorption. | 06 |
| | (b) | Discuss the regulatory requirements for conduction of bio-equivalence studies. | 05 |
| | (c) | Volunteer selection for bioavailability studies is a critical issue. Discuss the statement with examples. | 05 |
| Q.5 | (a) | Enumerate the drug transport mechanisms. Discuss passive diffusion in detail. | 06 |
| | (b) | What is BCS classification? How does it affect development of dosage form? | 05 |
| | (c) | How temperature degradation study is applied to pharmaceutical formulations? Derive an equation for half-life and method to establish expiry date and overages in formulations. | 05 |
| Q. 6 | (a) | Write in detail about facilitated diffusion and pinocytosis. | 06 |
| | (b) | Explain USP dissolution apparatus III, IV and V with diagram. | 05 |
| | (c) | Discuss the factors affecting stability of pharmaceutical formulation. | 05 |
| Q.7 | (a) | What is the importance of protein binding of drugs? Describe tissue binding of drugs in detail. | 06 |
| | (b) | Storage conditions for stability testing as per ICH guidelines. | 05 |
| | (c) | What is matrixing and bracketing? | 05 |
