

UKA TARSADIA UNIVERSITY
M.PHARM 1st Semester Examination December 2012
Subject Name: Pharmaceutical Formulation, Development & Biopharmaceutics
Subject Code: 040040102

Max. Marks: 70

Instructions:

1. Attempt all questions.
2. Write each section in a separate answer book.
3. Make suitable assumptions wherever necessary.
4. Figures to the right indicate full marks.
5. Draw diagrams/figures whenever necessary.

Section-I

Q-1 (A) Do as directed: **[14]**

- (I) Define preformulation.
- (II) Enlist one example each of hydrate & solvate.
- (III) Enlist different type of rouges.
- (IV) What do you understand by solubilized systems?
- (V) Define Dissolution number.
- (VI) Define Mean kinetic temperature.
- (VII) Define mean residence time.
- (VIII) Write the purpose of establishing IVIVC.
- (IX) Write the disadvantage of Wagner nelson method.

Q-1 (B) Answer the following in brief: (Any 4) **[16]**

- (I) Enlist methods for identifying polymorphs.
- (II) Enlist methods to determine particle size measurement.
- (III) Metastable polymorph can be used in solid dosage forms but not liquid dosage forms. Justify.
- (IV) Describe in brief different types of surfactants used in shampoos.
- (V) Enlist various inter and intra molecular forces responsible for poor solubility.
- (VI) Write formula for f1 and f2 factor.
- (VII) Enlist different methods for determination of solubility.
- (VIII) Write objectives of BCS.
- (IX) Explain the methods for bioavailability enhancement.

Q-2 Answer the following: **[10]**

A) Why are drug-exipient studies important in preformulation studies?

OR

A) Describe various factors affecting solubility.

B) Discuss the manufacturing variables which affect the absorption.

OR

B) Discuss the rationale in selecting a particular polymorph or crystalline form in a dosage form.

Q-3 Answer the following in detail. (Any 2) **[10]**

A) How shall be the preformulation of proteins carried out?

B) What do you mean by reduced designs? What are its advantages? Explain matrixing.

C) Describe the considerations of OVIs in preformulation study.

Q-5 Answer the following: **[10]**

A) Enlist various solubilization techniques and explain any two.

OR

A) Describe formulation & evaluation aspects of cold cream, vanishing cream & shaving creams.

B) Explain BCS class boundaries for solubility, permeability and dissolution.

Explain regulatory applications of BCS.

OR

B) Describe methods available for shelf life determination.

Q-6 Answer the following in detail. (Any 2)

[10]

- A) How to perform the evaluation of herbal products?
- B) Write the effect of physiochemical properties of drug for prediction of IVIVC.
- C) Explain all the level of IVIVC.