

M. PHARM.

Practicals - II Sem.

2017 - 2018

Even Semester Examination 2017-18

**M.PHARMA. (Pharmaceutics) (SEMESTER-II)**

**MOLECULAR PHARMACEUTICS  
(NANO TECHNOLOGY & TARGETED DDS)**

Time: 03:00 Hours

Max Marks : 75

Attempt any five questions. All questions carry equal marks.

- Q.1 a. Discuss the various strategies for brain targeting. (7.5)  
b. Discuss brain targeting with special emphasis on lipid carriers. (7.5)
- Q.2 a. Discuss the method of preparation and evaluation of microcapsules (7.5)  
b. Differentiate niosomes, aquasomes, phytosomes and electrosomes (7.5)
- Q.3 Discuss preparation, characterization and application of monoclonal antibodies (15)
- Q. 4 a. Discuss and enumerate the role of propellants in aerosol formulation. (7.5)  
b. Write a brief note on floating microspheres as gastroretentive drug delivery system (7.5)
- Q.5 What is Gene therapy? Enumerate various non-viral vectors in gene therapy. (15)
- Q.6 What are liposomes? Discuss various methods of preparation and evaluation (15)
- Q. 7 Give an exhaustive note on pharmacokinetic consideration of novel drug delivery system (15)
- Q.8 Describe the role of antisense molecules and aptamers as future drug delivery systems (15)

----- x -----

## Even Semester Examination 2017-18

## M.PHARMA. (Pharmaceutics) (SEMESTER-II)

**ADVANCED BIPHARMACEUTICS &  
PHARMACOKINETICS**

Time: 03:00 Hours

Max Marks : 75

**Note :** Answer any five questions. All questions carry equal marks.

- Q.1 a. Discuss the role of pH-partition theory in absorption of drugs from GIT. (7.5)
- b. Discuss the composition and role of simulated gastric and simulated intestinal fluid in studying dissolution of drug. (7.5)
- Q.2 Explain various dissolution apparatus used in dissolution testing of a pharmaceutical dosage form. (15)
- Q.3 a. Discuss the role of in vitro-in vivo correlation in designing a dosage form. (7.5)
- b. Enumerate the factors influencing the bioavailability of a drug from dosage form. (7.5)
- Q.4 Derive various pharmacokinetic parameters for a drug when it follows one compartment open model-intravenous bolus administration. (15).
- Q.5 a. Derive Michaelis – Menten equation for estimation of  $k_{max}$  and  $v_{max}$  (7.5)
- b. Elaborate the role of Lineweaver burk plot in determination of enzyme inhibition kinetics. (7.5)
- Q.6 Discuss various methods to assess the bioavailability of a drug from drug dosage form. (15)

Q.7 Give short notes (any three) :

(5×3=15)

- a. Cytochrome P450-Based Drug Interactions
- b. clinical significance of bioequivalence studies
- c. crossover study designs
- d. Pharmacokinetics and pharmacodynamics of biotechnology drugs

----- X -----

## Even Semester Examination 2017-18

## M.Pharm. (Pharmaceutics) (SEMESTER-II)

**COMPUTER AIDED DRUG DEVELOPMENT**

Time: 03:00 Hours

Max Marks : 75

**Note :** Attempt any five questions. All questions carry equal marks.

- Q.1 Write an exhaustive note on Statistical modeling in Pharmaceutical research and development. (15)
- Q.2 a. Give salient features of ICH Q8 guidelines. (7.5)  
b. Discuss population modeling. (7.5)
- Q.3 Discuss the factorial design, optimization technology & screening design in dosage form development. (15)
- Q.4 a. Give role of legal protection of innovative uses of computers in R&D. (7.5)  
b. How the biopharmaceutical characterization of dosage form is made based on Fed vs. fasted gastric state. (7.5)
- Q.5 Discuss computational modeling of drug disposition. Enumerate various software modules used in computataional modeling of drugs. (15)
- Q.6 Elaborate the ethics of computing in pharmaceutical research. (15)
- Q.7 How artificial intelligence can influence the prediction of biological activities. (15)
- Q.8 Discuss Biowaiver considerations in computer-aided biopharmaceutical characterization of drug dosage form. (15)

----- x -----

## Even Semester Examination, 2017-18

## M.PHARMA. (SEMESTER-II)

## COSMETICS AND COSMECEUTICALS

Time: 03:00 Hours

Max Marks : 75

Note : Attempt any five questions. All questions carry equal marks.

Q1. Attempt the following :

- (a) Define the term cosmetics as per Drug and Cosmetic Act. (5)
- (b) Discuss the regulatory provisions relating to manufacture of cosmetics. (10)

Q2. Attempt the following :

- (a) What is difference between cosmetics and dermatological products. (5)
- (b) Discuss the following skin pathologies: acne, pigmentation, prickly heat, wrinkles odor (2.5×4)

Q.3 Attempt the following :

- (a) Discuss manufacturing and evaluation of nail lacquer in brief (7.5)
- (b) Discuss deodorants and anti-perspirants (7.5)

Q.4 Attempt the following :

- (a) Discuss various preservatives used in cosmetics. (7.5)
- (b) Discuss the various factors affecting microbial preservative efficacy. (7.5)

Q5. Attempt the following :

- (a) Enlist and discuss the various perfume ingredients listed as allergens in EU regulation (7.5)
- (b) Explain the manufacturing of various type of soaps (7.5)

- Q.6 (a) Explain SPF in brief.
- (b) Explain the manufacturing considerations of sunscreen preparations. (10)
- Q7. (a) What are dentifrices? Explain the use of various abrasives in dental preparations. (7.5)
- (b) Give a detailed note on manufacturing of cold cream and vanishing cream. (7.5)
- Q8. (a) Discuss various herbal ingredients used in hair and skin care. (7.5)
- (b) Give a detailed note on preservation of herbal cosmetics. (7.5)

\*\*\*\*\*