

Roll No.

Total No. of Pages : 02

Total No. of Questions : 06

ADVANCED BIOPHARMACEUTICS & PHARMACOKINETICS

Subject Code : MPH-202

M.Code : 74962

Time : 3 Hrs.

Date of Examination : 24-05-2025

Max. Marks: 75

INSTRUCTIONS TO CANDIDATES :

1. Attempt any FIVE questions out of SIX questions.
2. Each question carries FIFTEEN marks.

1. a) Enumerate the physiological factors influencing drug absorption and discuss them with suitable examples.
b) What is meant by "dissolution rate limited absorption"? Briefly discuss the pharmaceutical factors that need critical consideration for such drugs.
2. a) Explain the role of pH of intestinal fluid in drug absorption.
b) Explain the BCS classification of drugs. Discuss the methods employed to enhance drug solubility.
3. a) Briefly discuss the biopharmaceutical factors affecting bioavailability.
b) Discuss the IVIVC methods and their requirements.
4. a) What is meant by non-linear pharmacokinetics? Discuss the reason for such behaviour of drugs.
b) Define "bioequivalence". Outline the protocol for conduction of bioequivalence studies for two products.
5. Write short notes on :
 - a) Tight junctions
 - b) Oligonucleotides
 - c) Generic substitutes and pharmaceutical alternatives

6. Write briefly about :

- a) K_m and V_m
- b) Latin square bioequivalence design
- c) Waiver from bioequivalence evaluation

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M. Pharmacy (Pharmaceutics) (Sem.-2)

COMPUTER AIDED DRUG DELIVERY SYSTEM

Subject Code : MPH-203

M. Code : 74963

Time : 3 Hrs.

Date of Examination : 28-05-2025

Max. Marks: 75

INSTRUCTIONS TO CANDIDATES :

1. Attempt any FIVE questions out of SIX questions.
2. Each question carries FIFTEEN marks.

1. a. Enumerate computation modeling techniques of drug disposition.
b. What is convolution and de-convolution, explain with examples.
2. a. Explain the concept of AI? Explain the role of AI in Pharmaceutical automation with application.
b. Write short note on :
 - i. Model construction.
 - ii. Parameters sensitivity analysis.
3. Write short note on :
 - i. In vitro in vivo correlation.
 - ii. Virtual trials.
 - iii. Descriptive Modeling
 - iv. Mechanistic Modeling
4. a. Explain Nucleoside Transporters with examples.
b. What are ICH Q8 guidelines?
c. Highlight the computer simulations in whole organism. How it is different from isolated tissue?

5. a. Enumerate legal protection of innovative use of computers in R and D.
b. Write short note on :
 - i. ABC binding cassettes
 - ii. BBB-Choline Transporter
6. a. What are the ethics of Computing in Pharmaceutical Research?
b. Enumerate model construction on Gastrointestinal absorption simulation.
c. What is Confidence Regions and non linearity at the optimum?

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M.Pharmacy (Pharmaceutics) (Sem.-2)

COSMETIC & COSMECEUTICALS

Subject Code : MPH-204

M.Code : 74964

Date of Examination : 14-06-2025

Time : 3 Hrs.

Max. Marks: 75

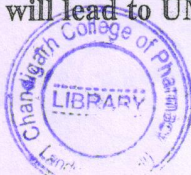
INSTRUCTIONS TO CANDIDATES :

1. Attempt any FIVE questions out of SIX questions.
2. Each question carries FIFTEEN marks.

1. a) Write a note on the classes/types of cosmetics that are prohibited to be manufactured and sold in India.
b) Give an account of the regulatory provisions for import of cosmetics to India.
2. a) Enumerate nail care cosmetic products. Give an overview of the standards to be maintained for these products.
b) Explain the structure of skin and comment on the formulation and action of anti-acne cosmetic products.
3. a) What are surfactants? Classify them with examples and justify their use in cosmetics used for cleansing purposes.
b) Give an account of preservatives used in cosmetic formulations.
4. Give a detailed account of perfumes along with their classification. Why are perfumes listed as allergens in EU regulations?
5. What are herbal skin care and hair care agents? Give suitable examples and explain the challenges encountered in formulating herbal cosmeceuticals.
6. **Write a short notes on (any three) :**
 - a) Herbal emollients
 - b) Soaps
 - c) Formulations for preventing mouth odour.
 - d) Sun screen agents

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Total No. of Questions : 06

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M.Pharmacy (Pharmaceutics) (Sem.-2)
MOLECULAR PHARMACEUTICS
(NANO TECH AND TARGETED DDS)

Subject Code : MPH-201

M.Code : 74961

Date of Examination : 31-05-2025

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

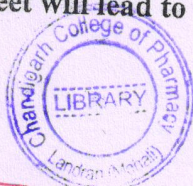
1. Attempt any FIVE questions out of SIX questions.
2. Each question carry FIFTEEN marks.

1.
 - a. Explain the Biological Process involve in the drug targeting.
 - b. What is the brain specific delivery? Explain with examples.
2. Explain the Targeting methods and evaluation techniques of Nano-particles.
3. **Give methods of preparation and evaluation of :**
 - a. Monoclonal Antibodies
 - b. Aquasomes
4. **Write a short note on :**
 - a. Aerosols
 - b. Propellents
 - c. Intranasal Route delivery system
5.
 - a. What is In-vivo and ex-vivo gene therapy?
 - b. Explain gene expression system.
6. **Write a short note on :**
 - a. Antisense molecules
 - b. Pharmacokinetics
 - c. Liposomal gene delivery

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