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PQ—04—2022

FACULTY OF PHARMACEUTICAL SCIENCE AND TECHNOLOGY

M.Pharmacy (Second Semester) EXAMINATION

JUNE/JULY, 2022

MOLECULAR PHARMACEUTICS

PAPER-MPH-201T

(Nano-Technology and Targeted DDS-NTDS)

(Tuesday, 26-07-2022)

Time : 2.00 p.m. to 5.45 p.m.

Time— 3.45 Hours

Maximum Marks—75

N.B. :— (i) All questions are compulsory.

(ii) Answer to the point only.

(iii) Figures to the right indicate full marks.

(iv) Draw the diagrams; wherever necessary.

1. Solve the following :

10×2=20

(a) What is nano-technology ?

(b) Enlist disadvantages of liposomes.

(c) Define microcapsules.

(d) What are different technologies used in the Pulmonary drug delivery systems ?

(e) Define pharmacokinetics.

(f) What is non-viral gene transfer ?

(g) Why propellents are used in the aerosols ?

(h) Enlist factors affecting Intranasal route delivery systems.

(i) What are nucleic acid based therapeutic delivery system ?

(j) What are phytosomes ?

P.T.O.

2. Solve any *two* : 2×10=20
- (a) Explain in detail, about events and biological process involved in drug targeting.
 - (b) Discuss in detail about preparation and evaluation of intranasal route delivery systems.
 - (c) Explain in detail about preparation and application of Niosomes.
3. Solve any *seven* of the following : 7×5=35
- (a) Differentiate between ex-vivo and in-vivo gene therapy.
 - (b) Explain in detail about evaluation of aerosols.
 - (c) Differentiate between aquasomes and phytosomes.
 - (d) Explain in detail about brain specific drug delivery.
 - (e) What are monoclonal antibodies ? Give its applications.
 - (f) Describe in detail about potential target diseases for gene therapy.
 - (g) Give the nomenclature of propellants in detail.
 - (h) Discuss various methods of preparation of microspheres. Enlist evaluation parameters.
 - (i) Discuss in detail about knowledge of therapeutic antisense molecules.

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PQ—10—2022

FACULTY OF PHARMACEUTICAL SCIENCES AND TECHNOLOGY

M. Pharm. (Second Semester) EXAMINATION

JUNE/JULY, 2022

(CBCS/PCI)

ADVANCED BIOPHARMACEUTICS AND PHARMACOKINETICS

Paper—MPH 202T

(Thursday-28-7-2022)

Time : 2.00 p.m. to 5.45 p.m.

Time— 3.45 Hours

Maximum Marks—75

N.B. :— (i) All questions are compulsory.

(ii) Figures to the right indicate full marks.

(iii) Illustrate your answers with neat sketches whenever necessary.

(iv) Answer to the point only.

1. Solve the following : 2×10=20

(a) Mention rate limiting step in drug absorption.

(b) Give significance of absorption window.

(c) Mention limitation of pH partition theory.

(d) Give the role of protein binding in drug distribution.

(e) State Michaelis-Menten equation.

(f) How K_m and V_{max} will be computed graphically using direct linear plot ?

(g) Write clinical significance of bioequivalence study.

(h) Define absolute and relative bioavailability.

(i) Mention applications of oligonucleotides.

(j) Write significance of immunotherapy.

P.T.O.

2. Solve any *two* of the following : 10×2=20
- (a) Describe absorption of drugs from non-per as extra vascular routes.
 - (b) Explain formulation and evaluation of modified release drug products.
 - (c) Write significances and kinetics of protein drug binding.
3. Solve any *seven* of the following : 5×7=35
- (a) Write the differences between linear and non-linear Pharmacokinetics.
 - (b) Explain drug interaction with its types.
 - (c) Describe two compartment open Model IV bolus.
 - (d) Explain concept of Loading and Maintenance dose.
 - (e) Describe methods of assessment of Bioavailability.
 - (f) Describe factors affecting the dissolution rate.
 - (g) Explain determination of KE from Urinary excretion data.
 - (h) Describe alternative methods of dissolution testing.
 - (i) Explain advantages and disadvantages of targeted drug delivery system.

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PQ—16—2022

FACULTY OF SCIENCE AND TECHNOLOGY

M. Pharam. (First Year) (Second Semester) EXAMINATION

MAY/JUNE, 2022

(CBCS PCI)

COMPUTER AIDED DRUG DELIVERY SYSTEM

MPH203T

(Saturday, 30-7-2022)

Time : 2.00 p.m. to 5.45 p.m.

Time— 3.45 Hours

Maximum Marks—75

N.B. :— (i) All questions are compulsory.

(ii) Draw a well labelled diagram wherever necessary.

1. Solve all the questions from the following : 10×2=20
- (a) Define mechanistic modeling.
 - (b) Define ICHQ8.
 - (c) Write the regulatory needs and views on QBD.
 - (d) Write a note on computational modeling.
 - (e) Define BCRP.
 - (f) Define factorial design.
 - (g) Write about ethics of computing.
 - (h) Define Artificial Intelligence.
 - (i) Write applications of computers in pharmaceutical.
 - (j) Write the current challenges in Robotics.
2. Write descriptive answers of any *two* from the following : 2×10=20
- (a) Write a note on descriptive Vs. mechanistic modeling.

P.T.O.

- (b) Describe in detail about computational modeling in drug disposition.
- (c) Describe about pharmaceutical automation in detail.
3. Write short notes on any *seven* from the following : 7×5=35
- (a) Write different statistical parameters used in pharmaceutical research and development.
- (b) Write a note on Regulatory and Industry views on QBD.
- (c) Describe Intestinal permeation in view of computational modeling.
- (d) Write a note on BBB-Choline Transporter.
- (e) Describe factorial design and its application in formulation development.
- (f) Write a note on model construction for biopharmaceutical characterization.
- (g) Write a note on fed Vs fasted state.
- (h) Write the advantages and disadvantages of application of artificial Intelligence in pharmacy.
- (i) Write the regulations of computer system.

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PQ—22—2022

FACULTY OF SCIENCE AND TECHNOLOGY

M. Pharmacy (Second Semester) EXAMINATION

MAY/JUNE, 2022

(CBCS SCD)

COSMETIC AND COSMECEUTICALS

MPH204T

(Tuesday, 2-8-2022)

Time : 2.00 p.m. to 5.45 p.m.

Time— 3.45 Hours

Maximum Marks—75

N.B. :—Attempt all questions.

1. Attempt all questions : 10×2=20
- (a) Mention ingredients used in shampoos.
 - (b) Enlist the hurdles in herbal cosmetics formulation.
 - (c) Name *four* herbal ingredients used in skin care.
 - (d) Enlist the diseases of oral cavity.
 - (e) Name *two* surfactants used in shampoos.
 - (f) Classify sunscreen products.
 - (g) List ingredients used in cold cream.
 - (h) Define vanishing cream.
 - (i) Differentiate between 'spurious' and 'misbranded' cosmetics.
 - (j) List any *four* foaming agents.
2. Attempt any *two* questions : 2×10=20
- (a) Describe import and manufacture of cosmetics.

P.T.O.

- (b) Give an account on skin care cosmetics.
- (c) Discuss in detail formulation of Creams.

3. Attempt any *seven* questions :

7×5=35

- (a) Write a note on offences and penalties of cosmetics.
- (b) Explain in detail conditions of obtaining License.
- (c) Write a short note on Hair growth cycle.
- (d) Give an account on care need of lips.
- (e) What are different building block of cosmetics.
- (f) Classify and give applications of Emollients.
- (g) Enlist and explain factors affecting preservative efficacy.
- (h) Explain tooth paste formulation.
- (i) Classify perfumes. What do you understand by controversial ingredients.