Code. No.M6J22422

St.Pauls College of Pharmacy

Approved by PCI and Affiliated to Osmania University, Hyderabad.
Accredited by NBA-UG Program, NAAC A+ Grade.
Recognition of College under Section 2(f) of the UGC Act 1956,
UGC Autonomous Institution

M.Pharmacy (Pharmaceutics) II Semester (PCI) (Supply) Examination Dec/ Jan 2024-25

Subject& Code: Advanced Biopharmaceutics & Pharmacokinetics & MPH202T

Time: 3 Hours **Max.Marks: 75**

PART- A

Note: Answer any FIVE questions. All questions carry equal marks.

Q.No.	Question	Marks	CO	BL
1	a). Define drug absorption. Explain about Mechanism of drug absorption, Factors affecting drug absorption. b) Describe about Dissolution rate, Dissolution process, Noyes–Whitney equation.	15	1 4	1 2
2	a). Explain about formulation, processing factors, Correlation of in -vivo data with in -vitro dissolution data. b) Give a note on Permeability-Solubility State, the pH Partition Hypothesis and Properties of the Gastrointestinal Tract (GIT).	15	1	2
3	a). What are biopharmaceutic factors affecting drug bioavailability, rate-limiting steps in drug absorption and physicochemical nature of the drug formulation factors affecting drug product performance? b) What are the In vitro–in vivo correlation,dissolution profile comparisons and drug product stability,considerations in the design of a drug product?	15	2	2
4	a). What are the compendial methods of dissolution, alternative methods of dissolution testing? b) How do you meet the dissolution requirements and problems of variable control in dissolution testing performance of drug products?	15	2 5	2
5	a). What are the Basic considerations, pharmacokinetic models and compartment modeling? b) Explain about extra-vascular and Multi compartment models.	15	3	2
6	a). Enumerate about one compartment model- IV bolus and IV infusion modeling. b) What are the causes of non-linearity? Explain about the Michaelis – Menten equation, and estimation of kmax and vmax.	15	3	2
7	a). What is the purpose of bioavailability studies should be conducted? Explain about the relative, absolute availability. And Methods for assessing bioavailability, b) What are biopharmaceutics classification system methods? Give a note on Permeability, In-vitro, in-situ and In-vivo methods.	15	3 4	2
8	a). Determine the Modified-Release Drug Products, Targeted Drug Delivery Systems and Biotechnological Products. b)Write about Pharmacokinetics and pharmacodynamics of biotechnology drugs.	15	6	3

****

Code. No.MPH201T

St.Pauls College of Pharmacy

Approved by PCI and Affiliated to Osmania University, Hyderabad.
Accredited by NBA-UG Program, NAAC A+ Grade,
Recognition of College under Section 2(f) of the UGC Act 1956,
UGC Autonomous Institution

M.Pharmacy (Pharmaceutics) II Semester (PCI) (Supply) Examination Dec/ Jan 2024-25

Subject: Molecular Pharmaceutics (Nano Technology and Targeted Drug Delivery System)
MPH201T

Time: 3 Hours **Max.Marks: 75**

PART- A

Note: Answer any FIVE questions. All questions carry equal marks.

Q.No.	Question	Marks	CO	BL
1	a) Discuss the concept, events and biological process involved in drug targeting	8	1	1
	b)Write about various approaches for drug delivery to brain	7		2
2	a)Discuss the preparation methods and evaluation in liposomes	8	2	2
	b)Outline the characterization of nanoparticles and its applications	7		1
3	a) Describe in detail preparation and application of monoclonal antibodies.	8	3	2
	b)Explain about method of preparation of aquasomes	7		2
4	a)Write about intranasal route delivery systems	8	4	2
	b)What are Aerosols? Explain various propellants used in the manufacturing of Aerosols.	7		2
5	a)Define Gene therapy? Explain few diseases targeted for treatment using gene drug delivery systems.	8	5	2
	b)Briefly discuss in detail about ex-vivo and in-vivo gene therapy	7		2
6	a)What do you mean by ligand mediated targeting	8	1	1
	b)Write a note on tumor targeting	7		2
7	a)Explain about method of preparation of Phytosomes	8	3	2
	b)Illustrate the evaluation of nasal formulations and applications of nasal drug delivery system.	7		2
8	a)Discuss various evaluation methods to evaluate Aerosol	8	4	2
	b)What are the different types of containers used for Aerosols	7		1

****

Code. No.M6122424

St.Pauls
College of Pharmacy
Approved by PCI and Affiliated to Osmania University, Hyderabad.
Accredited by NBA-UG Program, NAAC A+ Grade.
Recognition of College under Section 2(f) of the UGC Act 1956,
UGC Autonomous Institution

M.Pharmacy (Pharmaceutics) II Semester (PCI) (Supply) Examination Dec/ Jan 2024-25

Subject: COSMETICS AND COSMECEUTICALS (MPH204T)

Time: 3 Hours **Max.Marks: 75**

PART- A

Note: Answer any FIVE questions. All questions carry equal marks.

Q.No.	Question	Marks	CO	BL
1	a) Define Cosmetic products as per Indian regulation and give Indian regulatory requirement for labeling of cosmetics. b) What are licensing procedures for manufacturing of cosmetics?	8+7	1	6,5
2	a) Explain functions and disorders of skin. b) Draw and explain labeled structure of skin. c) Discuss the problems associated with hairs?	5+5+5	2	6,5
3	a) Classify the Cosmetics and write about the Face powders. b) Explain Surfactant with its classification and Application.	7+8	3	4,5
4	a) Define Cosmeceuticals. Explain and classify Sunscreen with its regulatory aspects. b) Antimicrobials are used as preservative: Explain along with factors affecting efficacy of microbial preservative.	7+8	3,4	1,3
5	a) What is the review of guidelines by COSMOS with respect to Preservative? b) Write a note on herbal ingredients used in Hair care and Skin care.	8+7	5	4,2
6	a) How Cosmeceuticals are designed for addressing Body odor and Dental cavity. b) Explain Cosmeceuticals formulations for antidandruff.	9+6	4	6,3
7	a) Write a note on building blocks for formulation of Vanishing cream and Cold cream. b) Explain Cosmeceuticals formulation of Bleeding gums and sensitive teeth.	7+8	3,4	6,5
8	a) Explain structure of Hair and Hair growth Cycle with diagram b) Give a brief note on Sunscreen products. c) Draw and explain labeled structure of skin.	5+5+5	2,4	4,3

****

Code. No.M6082421

St.Pauls College of Pharmacy

Approved by PCI and Affiliated to Osmania University, Hyderabad.
Accredited by NBA-UG Program, NAAC A+ Grade.
Recognition of College under Section 2(f) of the UGC Act 1956,
UGC Autonomous Institution

M.Pharmacy (Pharmaceutics) II Semester (PCI) (Main) Examination Jul/Aug 2024

Subject & Code: Molecular Pharmaceutics (Nano Technology and Targeted Drug Delivery System) & MPH201T

Time: 3 Hours **Max.Marks: 75**

PART- A

Note: Answer any FIVE questions. All questions carry equal marks.

Q.No.	Question	Marks	CO	BL
1	a) Explain different types of drug targeting in detail. b) Write the targeted methods used in cancer treatment.	8 7	1	2 1
2	a) Write about preparation and evaluation of nanoparticles. b) Explain the evaluation tests of liposomes.	8 7	2	1 2
3	Write the methods of preparation and applications of a) Phytosomes b) Electrosomes	8 7	3	1 1
4	a) Define Aerosol, Explain the parts of aerosol container and evaluation of aerosols. b) Describe in detail evaluation methods of nasal drug delivery system.	8 7	4	1 2
5	a) Explain aptamers role in targeted cancer therapy. b) Write about the bio distribution and Pharmacokinetics of Liposomal delivery system.	8 7	5	2 1
6	a) What is intranasal drug delivery? Write the advantages and preparation methods of intranasal drug delivery. b) Write about preparation of pharmaceutical aerosols.	8 7	4	1 1
7	a) Explain any five methods of preparation of niosomes. b) What are aquasomes? Describe in detail on preparation and characterization of aquasomes	8 7	3	2 1
8	a) What are gene drug delivery systems? Explain in detail viral and non-viral gene transfer methods. b) Explain about therapeutic antisense molecules.	8 7	5	1 2

****

Code. No. M6082422

St.Pauls College of Pharmacy

Approved by PCI and Affiliated to Osmania University, Hyderabad.
Accredited by NBA-UG Program, NAAC A+ Grade.
Recognition of College under Section 2(f) of the UGC Act 1956.
UGC Autonomous Institution

M.Pharmacy (Pharmaceutics) II Semester (PCI) (Main) Examination Jul/Aug 2024

Subject& Code: Advanced Biopharmaceutics & Pharmacokinetics & MPH202T

Time: 3 Hours **Max.Marks: 75**

Note: Answer any FIVE questions. All questions carry equal marks.

Q.No.	Question	Marks	CO	BL
1	a) Define drug absorption. Explain about Mechanism of drug absorption, Factors affecting drug absorption. b). Give a note on Permeability-Solubility State, the pH Partition Hypothesis and Properties of the Gastrointestinal Tract (GIT).	15	1 4	1
2	a). Explain about formulation, processing factors, Correlation of in -vivo data with in -vitro dissolution data. b) Describe about Dissolution rate, Dissolution process, Noyes–Whitney equation and drug dissolution.	15	1	2
3	a). What are the compendial methods of dissolution, alternative methods of dissolution testing? b) How do you meet the dissolution requirements and problems of variable control in dissolution testing performance of drug products?	15	2	2
4	a). What are biopharmaceutic factors affecting drug bioavailability, rate-limiting steps in drug absorption and physicochemical nature of the drug formulation factors affecting drug product performance? b) What are the In vitro–in vivo correlation,dissolution profile comparisons and drug product stability,considerations in the design of a drug product?	15	2 5	2
5	a). Enumerate about one compartment model- IV bolus and IV infusion modeling. b) What are the causes of non-linearity? Explain about the Michaelis – Menten equation, and estimation of kmax and vmax.	15	3	2
6	a). What are the Basic considerations, pharmacokinetic models and compartment modeling? b) Explain about extra-vascular and Multi compartment models.	15	3	2
7	a). What are the bioequivalence studies? How do you design, evaluation of bioequivalence studies, study designs, crossover study designs and evaluation of the data. b) Describe about generic biologics (biosimilar drug products) and clinical significance of generic substitution.	15	3	2
8	a). Explain about the Pharmacokinetics and pharmacodynamic drug interactions. b) Describe about Monoclonal antibodies and Oligonucleotides,	15	6	3

Code. No.M6082423

St.Pauls
College of Pharmacy

Approved by PCI and Affiliated to Osmania University, Hyderabad.
Accredited by NBA-UG Program, NAAC A+ Grade,
Recognition of College under Section 2(f) of the UGC Act 1956,
UGC Autonomous Institution

M.Pharmacy (Pharmaceutics) II Semester (PCI) (Main) Examination Jul/Aug 2024

Subject & Code: Computer Aided Drug Development & MPH203T

Time: 3 Hours **Max.Marks: 75**

Note: Answer any FIVE questions. All questions carry equal marks.

Q.No.	Question	Marks	CO	BL
1	a) Write about history of computers in pharmaceutical research and development b)Explain about the Regulatory and industry views on QbD.	8 7	1	2
2	a) Define Active transport? Mention the list of transporters useful in computational modeling of drug disposition. Explain Nucleoside transporter in detail. b) Explain briefly about i) P-gp transporters ii) hPEPT1 iii) BBB-Choline transporter.	7 8	2	2
3	a) Describe briefly the factorial design for optimization with examples b) Explain about the importance of screening design in the formulation development with example.	8 7	3	2
4	a) Explain development of emulsions and microemulsions as drug carriers. b) Write the usage of computers in market analysis.	8 7	4	3
5	a) Explain about Computer aided biopharmaceutical characterization for GI absorption simulation. b) What do you mean by "Biowavier consideration" and where do you apply these biowavier studies.	8 7	5	4
6	a) Explain about the Gastrointestinal absorption simulation. b) Write short notes on clinical data collection.	8 7	4	2
7	a) Give detail description about the process before, during and after data collection. b) Explain about the Regulation of Computer Systems.	8 7	4	2
8	a) Write notes on pharmaceutical automation. b) Discuss the Pharmaceutical applications, advantages and challenges of robotics in pharmaceutical product development.	8 7	5	2

*****

Code. No.M6082424

St.Pauls
College of Pharmacy

Approved by PCI and Affiliated to Osmania University, Hyderabad.
Accredited by NBA-UG Program, NAAC A+ Grade.
Recognition of College under Section 2(f) of the UGC Act 1956,
UGC Autonomous Institution

M.Pharmacy (Pharmaceutics) II Semester (PCI) (Main) Examination Jul/Aug 2024

Subject & Code: COSMETICS AND COSMECEUTICALS & MPH 204T

Time: 3 Hours **Max.Marks: 75**

PART- A

Note: Answer any FIVE questions. All questions carry equal marks.

Q.No.	Question	Marks	CO	BL
1	a) Describe about regulatory provisions for the manufacturing of cosmetics. b) What are the Regulatory requirements for labeling of cosmetics?	10 5	1	2 1
2	a) Illustrate a neat diagram on structure of hair and explain about hair grows cycle. b) Discuss the cleansing and care products for under-arm.	10 5	2	4 2
3	a) Discuss the product attributes and development of toothpaste. b) Explain Perfumes with its classification and Application.	7 8	3	2 2
4	a) Elaborate the regulatory aspects of Sunscreen. b) Discuss the problems associated with hairs and skin?	7 8	3 4	2 2
5	Describe about the guidelines for Herbal cosmetic by COSMOS.	15	5	2
6	Define dandruff. "Cosmeceuticals are effective in treatment of dandruff". Justify and explain one such formulation.	15	4	5
7	a) Discuss about building blocks for formulation of shampoo and toothpaste. b) Explain Cosmeceuticals formulation of Pigmentation and wrinkles.	8 7	3 4	2 2
8	a) Explain in detail about the common problems associated with oral cavity. b) Give a brief note on Acne.	10 5	2 4	2 1

****