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MPH 202 T
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M. PHARMACY (Regular) DEGREE EXAMINATIONS, DECEMBER-2022
Second Semester
PHARMACEUTICS
ADVANCED BIOPHARMACEUTICS & PHARMACOKINETICS

Time : Three Hours

Maximum : 75 Marks

SECTION - A

Answer any FIVE Questions.

5x5 = 25 M

1. Discuss compendial methods of dissolution.
2. Explain Noyes-Whitney equation and factors affecting dissolution rate.
3. Explain the testing performance of drug product invitro-invivo correlation.
4. Discuss about physiological pharmacokinetic model.
5. Write the role of transporters in drug absorption.
6. Derive the pharmacokinetic equations of two compartment model of IV bolus administration.
7. Discuss the cross-over design to perform bioequivalence studies.

SECTION - B

Answer any FIVE Questions.

5x10 = 50 M

8. a) Discuss about various rate limiting steps of drug absorption.
b) Explain in detail Biopharmaceutical considerations in drug product design.
9. Explain the methods to assess bioavailability.
10. a) Explain the equation involved in calculating the loading dose in an IV infusion using steady state drug concentration.
b) Discuss cytochrome P450 based drug interactions.

[P.T.O.]

11. Discuss in detail about various physicochemical factors affecting the gastrointestinal tract drug absorption.
12. Write a note on Non-linear pharmacokinetic including factors causing on non linearity.
13. Design and evaluation of bioequivalence and its significance.
14. a) Discuss about monoclonal antibodies used for TDDS.
b) Add a note on Protein and Peptide drug systems.



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M. PHARMACY (REGULAR) DEGREE EXAMINATIONS, JANUARY-2022

Second Semester

PHARMACEUTICS

ADVANCED BIOPHARMACEUTICS AND PHARMACOKINETICS

Time : Three Hours

Maximum : 75 Marks

SECTION - A

Answer any FIVE Questions.

5x5 = 25 M

1. Differentiate between one and two compartments.
2. Define clearance and write about renal clearance.
3. Write about Plasma Protein binding sites.
4. Write about biological Half-life, firstpass effect and volume of distribution.
5. How the dose adjustments are made in hepatic failure ? Explain.
6. Write about pH Partition theory.
7. Write a note on
 - a) Oligonucleotides.
 - b) Genetherapy.

SECTION - B

Answer any FIVE Questions.

5x10 = 50 M

8. Explain wagner nelson method. Mention its advantages.
9. Explain the influence of gastric emptying & Intestinal transit time on absorption of drugs.
10. Derive all possible pharmacokinetic parameter using one compartment model for IV bolus.
11. Define non-linear P¹ kinetics ? Write the causes and explain michaelis - menten equation with respect to K_m and V_{max} .



[P.T.O.]

12. a) Discuss cytochrome P450 based drug interactions.
b) Discuss crossover design to perform bioequivalence studies.
13. a) Write a note on loading and maintenance dose.
b) Explain the equation involved in calculating the loading dose in an IV Infusion using steady state concentration.
14. Write a note on ;
 - a) Role of transporters in drug absorption.
 - b) Discuss dose accumulation in multiple dosage regimen.

