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MIP 201 T

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M. PHARMACY DEGREE EXAMINATIONS, JULY - 2022

Second Semester

INDUSTRIAL PHARMACY

ADVANCED BIOPHARMACEUTICS AND PHARMACOKINETICS

Time : **Three Hours** Maximum : **75** Marks

SECTION - A

Answer any FIVE Questions. **5x5 = 25 M**

1. Write the significance of Protein binding.
2. Explain the differences between active and passive transport.
3. Discuss various biological factors affecting drug absorption.
4. Write modified noyes whitney equation.
5. Explain effect of GI components on gastric emptying rate.
6. What is flip-flop phenomenon and extraction ratio. Explain.
7. What is difference between relative and absolute bioavailability.

SECTION - B

Answer any FIVE Questions. **5x10 = 50 M**

8. Write a note on PBPK models. Discuss applications of Pharmacokinetic models.
9. a) Write a note on various dissolution methods.
   b) Write effect of drug - protein and drug - tissue binding interactinos.
10. a) Discuss the methods for assessing the bioavailability of a drug.
    b) Write a note on Biosimilar drug products and their applications.
11. Explain in detail about one compartment open model both IV bolus and IV infusion.
12. Define bioequivalence and list various methods involved in determination of bioequivalence.
13. What are the two methods for calculating K_e from urinary excretion data ? Compare their merits & demerits.
14. a) Write about Bioavailability study designs.
    b) Give a brief account on dose adjustment in patients with renal failure.

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

Second Semester

INDUSTRIAL PHARMACY

ADVANCED BIOPHARMACEUTICS AND PHARMACOKINETICS

Time : **Three Hours** Maximum : **75** Marks

SECTION - A

Answer any FIVE Questions. **5x5 = 25 M**

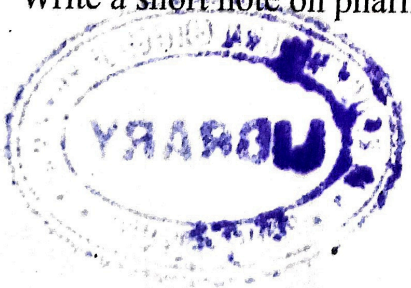
1. Write a detailed note on pharmaceutical factors affecting drug absorption.
2. Discuss the applications of pharmacokinetic models.
3. Discuss different methods to calculate Area Under Curve (AUC).
4. Write a note on pH partition hypothesis and its limitations.
5. Write the application of pharmacokinetics in targeted drug delivery system.
6. Write briefly about PK - PD relationships.
7. What are V_d and AUC. Explain the correlation between them.

SECTION - B

Answer any FIVE Questions. **5x10 = 50 M**

8. Write a detailed note on Protein binding of drugs and explain how Plasma Protein binding of drugs affect distribution.
9. Explain various methods for determining absorption of drugs invitro-insitu and invivo and their correlation with examples.
10. Explain in detail about Two-compartment open model of IV Bolus.

Write a short note on pharmacokinetics of bio-technology drugs.



[P.T.O.]

11. a) Discuss about Biosimilar drug (generic biologics) products and their applications.

    b) And add a note on biopharmaceutical classification system.

12. a) Explain the testing performance of drug product invitro-invivo correlation.

    b) Discuss cytochrome P450 based drug interactions.

13. a) Define bioavailability and write a note on relative and absolute bio-availability.

    b) Write a note on various dissolution methods.

14. a) Explain Michalis-Menten equation with respect to the estimation of K_m and V_{max}.

    b) What are causes for non-linearity.

M. PHARM