

[Total No. of Questions - 15] [Total No. of Printed Pages - 2]
(2125)

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M. Pharmacy 1st Semester Examination

Biopharmaceutics

MP-112

Time : 3 Hours

Max. Marks : 90

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt any one question from section A, three questions from section B and seven questions from section C.

SECTION - A

1. Define Absorption. Enlist various factors affecting drug absorption from G.I.t. Elaborate various physicochemical factors affecting drug absorption. (25)
2. Explain the terms 'Bioequivalence', 'Therapeutic equivalence', 'Pharmaceutical equivalence'. Describe the design of bioequivalence study and methods of documenting bioequivalence. (25)

SECTION - B

3. What is pre-systemic metabolism? How it affects drugs efficacy? What approaches can be used to overcome it?(10)
4. What is Biopharmaceutical classification scheme (BCS) of drugs? How the drugs are assigned to various classes of BCS? (10)
5. Write an account on percutaneous drug absorption. (10)
6. What is plasma-protein-drug binding? How it affects the drug action? Write a brief note on scattered plot. (10)

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SECTION - C

7. What is Gastric emptying? How it influences drug absorption? (5)
8. What is biotransformation? Enlist the factors influencing biotransformation of drugs. (5)
9. Draw typical plasma concentration Vs. time curve (AVC) for oral and IV dosing of the drug, and explain the terms c_{max} , t_{max} , t_{onset} , duration of action, MEC and MSC and therapeutic window with the help of plot. (5)
10. Define apparent volume of distribution (V_d) of the drug. What would be the V_d of the drug if 100mg of the drug administered as IV bolus to a 70kg patient produces plasma concentration of 2.4mg/L. (5)
11. Differentiate between active transport and passive diffusion. (5)
12. Write a note on Non-renal excretion. (5)
13. What do you mean by IVIVC? How IVIVC is established? (5)
14. Explain the constraints in ophthalmic drug absorption. (5)
15. Write a short note on ANDA. (5)