Roll No. | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 18

Pharm.D. (Sem.–4)

BIOPHARMACEUTICS AND PHARMACOKINETICS

Subject Code : 4.5

M.Code : 71573

Time : 3 Hrs. Max. Marks : 70

INSTRUCTION TO CANDIDATES :

1. SECTION-A contain SEVEN questions. Attempt any FIVE questions. Each question will carry TWO marks each.
2. SECTION-B contain EIGHT questions (Short Essay Type). Attempt any SIX questions. Each question will carry FIVE marks.
3. SECTION-C contain THREE questions (Long Essay Type). Attempt any TWO questions. Each question will carry FIFTEEN marks.

SECTION-A

1. What is meant by K and Ke?
2. What is relative bioavailability?
3. What is facilitated transport?
4. What are plasma proteins and what are their functions? Give two examples of plasma proteins.
5. What is renal clearance and how is it calculated?
6. What is MDT?
7. Define volume of distribution and its units.

SECTION-B

8. Write briefly about the physiological factors influencing drug absorption.
9. Explain MRT, MAT and MDT.

10. Explain with the help of suitable equations the pharmacokinetics of a drug in plasma after IV administration that follows one compartment open model.

11. A dose of 300mg was given to a patient by IV bolus injection. After 30 days the serum drug concentration was found to be 75mg/ml. Calculate K and T1/2 of the drug assuming first order kinetics.

12. Explain the differences between one- and two-compartment models? Why are they called "open"?

13. Enumerate the reasons for non-linear pharmacokinetic behaviour of drugs.

14. Giving examples explain Phase-I reactions responsible for drug metabolism.

15. Explain the term "apparent Vd". Write briefly about the clinical significance of Vd.

SECTION-C

16. What is Bioequivalence? Write a note on a typical bioequivalence protocol and mention the criteria for declaring two products bioequivalent. Describe the regulatory considerations pertaining to bioequivalence studies in India.

17. Explain how Ka is determined by Wagner-Nelson method.

18. What is Sigma-Minus method? Explain the method of calculating elimination rate constant by this method with the help of suitable equations.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.