Roll No. | | | | | | | | | | | | |

Total No. of Pages : 02

Total No. of Questions : 18

Pharm.D. (Sem.–4)

BIOPHARMACEUTICS AND PHARMACOKINETICS

Subject Code : 4.5

Paper ID : [A2664]

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) Why is volume of distribution called "Apparent" and what is the unit of Vd?

2) What is the difference between elimination and excretion?

3) What is creatinine clearance and what is its significance?

4) What are pharmaceutical alternatives?

5) Differentiate between one and two compartment open models.

6) Give two examples Phase-I metabolic reaction.

7) What is inulin clearance and what does it indicate?

SECTION-B

8) Explain as to how pH of urine influences the ratio of a weakly basic drug in urine to plasma thus affecting drug reabsorption process.

9) Briefly describe the influence of protein binding on pharmacological effect of drugs.

10) Derive suitable equations to explain the one compartment pharmacokinetics of a drug in plasma following IV (rapid) injection.

11) Discuss briefly the pharmaceutical factors that are needed to be considered during biopharmaceutical studies.

12) Discuss facilitated transport and pincytosis with respect to drug absorption.

13) Give an account of Phase II reactions as applied to drug metabolism.

14) Write briefly about MM kinetics and discuss its clinical implications.

15) Explain the basis, advantages and limitations of physiological pharmacokinetic model.

SECTION-C

16) Discuss the various challenges that a drug faces before getting absorbed when it is administered orally.

17) Deriving suitable equations explain Wagner-Nelson method and comment on its advantages.

18) Explain the differences between linear and non linear pharmacokinetics. Mention the reasons for non linear behaviour of drugs and the tests employed for confirming non linear pharmacokinetics. Comment on the clinical implications of non linear pharmacokinetics.