DAO-BP604T   Seat No. _____

M. P. M. (Sem. VI) Examination

May – 2022

Biopharmaceutics & Pharmacokinetics

Time : **3 Hours**]   [Total Marks : **75**

Instructions :

(1) Figure to the right indicates marks.

(2) Draw neat and clean diagrams as required.

1   Answer the following questions :   **10×2=20**

    (a) Enlist the factors affecting drug absorption from GI tract.

    (b) Define absolute bioavailability and relative bioavailability.

    (c) How do you determine renal clearance of drugs ?

    (d) Define phase I and phase II reactions of biotransformation with example.

    (e) What is a compartment model ? Discuss the various types of compartment models.

    (f) Define Distribution and enlist factors affecting distribution of drug.

    (g) Define elimination rate constant.

    (h) Define non linear pharmacokinetics.

    (i) Write the merit and demerit of the Wagner-nelsons method.

    (j) Define loading dose and maintenance dose.

2   Answer any **Two** out of the following :   **2×10=20**

    (a) Discuss in detail one-compartment open model for a drug administered as IV Bolus. Give the schematic representation, graphs and equations for the same.

    (b) Discuss in detail various physico-chemical, factors affecting drug absorption.

    (c) Define biotransformation. Explain with examples phase I and phase II reactions.

3   Answer any **seven** out of the following :   **7×5=35**

   (a)   Differentiate between one and two compartments.

   (b)   Explain Michaelis Menten equation in determining non-linearity.

   (c)   Explain how steady state level of the drug is achieved through I. V. infusion.

   (d)   Write a short note on in-vitro-in-vivo correlations.

   (e)   Explain Non renal routes of drug excretion.

   (f)   Write a note an measurement of bioavailability.

   (g)   Explain factors affecting protein-drug binding.

   (h)   Write the importance of Compartment modeling in pharmacokinetic study.

   (i)   Enlist various Mechanisms of drug absorption through GIT and explain any one in detail.

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