KNT/KW/16/6581

B.Pharm. Seventh Semester (C.B.S.) Examination

BIOPHARMACEUTICS AND PHARMACOKINETICS

Paper—6 (7-T-6)

Time : Three Hours] [Full Marks : 80

N.B. :— (1) Q. No. **1** is compulsory.

(2) Attempt any **four** questions from remaining.

(3) Draw neat labeled diagram wherever necessary.

(4) Discuss the reaction, mechanism wherever necessary.

(5) Use of electronic calculator, excluding programmable calculator is permitted.

1. Solve any **five** : 4×5=20

   (a) Enlist the factors affecting drug absorption.

   (b) Give various barriers to drug distribution.

   (c) Give criteria for Biowavers to bioequivalence study.

   (d) Give in-vitro dissolution testing apparatus mentioned in USP.

   (e) What are the important characteristics of microsomal enzymes ?

   (f) Write about Non-renal routes of drug elimination.

   (g) Define V_{max} and K_m.

2. Give physiology of cell membrane. Describe in detail the mechanism of drug transport from GIT. 15

3. (a) Define pharmacokinetics. Give an account on one compartment open model for single oral dose administration. 8

   (b) Define — Absolute Bioavailability and Relative Bioavailability. Describe methods of assessing Bioavailability. 7

4. (a) Describe Biopharmaceutical Classification System. Give an account on theories of dissolution. 8

   (b) Discuss the factors affecting Gastric Emptying of drugs. 7

5. (a) Give significance of Drug-protein binding. Explain in detail why plasma albumin is considered as an important protein for drug binding. 8

(b) Give various factors affecting drug metabolism. Describe in brief Extraction Ratio and First-pass Effect. 7

6. (a) Describe zero order kinetic process with suitable example. Add an account on in-vitro, in-vivo correlation. 8

(b) Describe non-oral routes of drug absorption. 7

7. Write short notes on (any **three**) :

(a) Michaeles Menton equation.

(b) Purpose of Bioavailability testing

(c) Pathways of metabolism

(d) Bioequivalence study. 5×3=15