NRJ/KW/17/4296

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

BIOPHARMACEUTICS AND PHARMACOKINETICS

Paper—6

Time : Three Hours] [Maximum Marks : 80

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

(2) Attempt any ***four*** questions out of remaining.

(3) Draw neat labelled diagrams wherever necessary.

1. Solve any ***five*** questions :
   (a) What are the various causes of nonlinearity of drugs ?
   (b) Explain any four factors affecting gastric emptying in drug absorption.
   (c) What are the characteristics of microsomal enzymes ?
   (d) Comment on ABC transporters.
   (e) Define and explain absolute and relative bioavailability.
   (f) Comment on biliary excretion of drugs.
   (g) Explain in-vitro — in vivo correlation in brief. 5×4=20
2. (a) Discuss in detail physicochemical factors affecting drug absorption. 8
   (b) Enlist non oral routes of drug absorption. Write about nasal and parenteral route of drug absorption in detail. 7
3. (a) Discuss physiological barriers for distribution of drugs. 8
   (b) Comment on plasma-protein binding of drugs. Explain significance of drug-protein binding. 7
4. (a) Explain mechanisms of renal drug excretion. 8
   (b) Define renal clearance and add a note on concept of clearance. 7
5. (a) Define bioavailability and bioequivalence. Enlist methods for measurement of bioavailability. Discuss pharmacokinetic method in detail. 8
   (b) Comment on theories of dissolution. 7
6. (a) Elucidate pharmacokinetic parameters for one compartment open model after intravenous bolus administration. 8
   (b) Discuss glucuronidation biotransformation reactions with examples. 7
7. Write short notes on (any ***two***) :
   (a) Study designs for bioequivalence testing
   (b) USP dissolution testing apparatus
   (c) Passive diffusion of drugs
   (d) Volume of distribution. 7.5×2=15