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Total No. of printed pages = 3

PY 132701

Roll No. of candidate | | | | | | | | | | |

2021

B.Pharm. 7th Semester (Repeaters) Examination

PHARMACEUTICS – VI
(BIOPHARMACEUTICS AND PHARMACOKINETICS)

(Old Regulation)

Full Marks – 100 Time – Three hours

The figures in the margin indicate full marks for the questions.

(Answer question No. 1 and any *six* from the rest.)

1. Multiple choice questions: (10 × 1 = 10)

(i) According to BCS classification, type II drugs have:

(a) High solubility and high permeability

(b) High solubility and low permeability

(c) Low solubility and high permeability

(d) Low solubility and low permeability

(ii) Creatinine measurement is used to measure:

(a) Renal drug excretion rate

(b) Renal secretion rate

(c) Renal blood flow

(d) Glomerular filtration rate

(iii) The organ which is the primary site for metabolism of drug is:

(a) Liver

(b) Kidneys

(c) Lungs

(d) Intestine

(iv) In the Plasma level time curve AUC represents:

(a) Maximum concentration of drug in plasma

(b) Total amount of drug that comes to systemic circulation

(c) Concentration of drug above plasma

(d) Minimum concentration of drug in plasma

(v) The Site I for drug-binding with Human serum albumin is also known as:

(a) Digitoxin binding sites

(b) Diazepam binding sites

(c) Warfarin binding sites

(d) Tamoxifen binding sites

(vi) Which of the following mechanism of absorption is energy dependent?

(a) Active transport

(b) Passive diffusion

(c) Pore transport

(d) Facilitated diffusion

(vii) The order of dissolution pattern for different solid dosage forms are as follows:

(a) Stable> Metastable> Amorphous

(b) Metastable> Stable> Amorphous

(c) Amorphous> Metastable> Stable

(d) Amorphous> Stable> Metastable

(viii) The molecular weight of drug should be ———————— to permeate through intestine.

(a) < 200 Dalton

(b) < 500 Dalton

(c) > 600 Dalton

(d) > 800 Dalton

(ix) In in-vitro in-vivo correlation levels, the point-to-point correlation is given by:

(a) Level A

(b) Level B

(c) Level C

(d) Multiple level C

(x) USP type 4 dissolution apparatus is also known as:

(a) Paddle type

(b) Basket type

(c) Paddle over disc type

(d) Flow through cell apparatus

2. (a) Explain the different mechanisms of drug absorption through GIT. (7)

(b) Describe the various physicochemical factors effecting drug absorption through GIT. (8)

3. (a) Explain different biological barriers involved in drug distribution. (9)

(b) Discuss briefly the Wagner-Nelson method for estimation of Ka. (6)

4. (a) Give a detailed description of Kinetics of Protein drug binding with suitable graphs. (8)

(b) Explain the zero order and first order kinetics. (7)

5. (a) Write a short note on *in-vitro in-vivo* correlation. (5)

(b) Explain in details on one compartment open model for i.v. bolus dose. (6)

(c) Differentiate between parallel and cross over design. (4)

6. (a) What do you mean by renal failure? Explain how you will adjust the dosage regimen in case of renal failure. (2+7=9)

(b) Explain in details on various Phase II reactions of biotransformation. (6)

7. (a) Explain the phamacokinetic and pharmacodynamic parameters of Plasma Drug Concentration-Time curve with suitable graphs. (4+4)

(b) Discuss in details about the various dissolution testing apparatus with the dissolution acceptance criteria. (7)

8. (a) What do you mean by bioequivalence study? (3)

(b) Write a note on bioequivalence study protocol. (4)

(c) Describe the methods for enhancement of bioavailability through solubility or dissolution rate. (8)

9. Write short note on: $(3 \times 5 = 15)$

(a) BCS classification system of drugs

(b) Multi-compartment model

(c) Process of determination of urinary excretion
