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PY 132701

Roll No. of candidate

2018

B.Pharm. 7th Semester End-Term Examination

Pharmacy

PHARMACEUTICS — VI
(BIOPHARMACEUTICS AND PHARMACOKINETICS)

(Old Regulations)

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. Answer the following questions : (10 × 1 = 10)

(i) Which of the following mechanism of absorption is energy dependent
- (a) Passive diffusion
- (b) Pore Transport
- (c) Ion Pair Transport
- (d) Carrier mediated transport

(ii) Which of the following parameters is/are important in determining bioequivalence?
- (a) Tmax (b) Cmax
- (c) AUC and Cmax (d) All of the above

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(iii) According to USP which dissolution is included as USP Type IV apparatus

(a) Paddle type

(b) Paddle over disk apparatus

(c) Reciprocating Cylinder

(d) Flow through cell apparatus

(iv) Parallel design is suitable for bioequivalence study of drug with ———————— t1/2 (long/short).

(v) The following method doesn't require the assumption of zero order or first order in determination of Ka

(a) Method of residual

(b) Wagner-nelson method

(c) Sigma Minus Method

(d) Urinary Method

(vi) In one compartment open model elimination follows

(a) Zero order (b) First order

(c) Mixed order (d) Second order

(vii) Which of the following is a Phase II drug metabolism reaction associated with detoxification of harmful metabolites?

(a) Glucurodination

(b) Acetylation

(c) Reduction

(d) Glutathione conjugation

(viii) The following is the least perfused organ

(a) Brain (b) Liver

(c) Muscle (d) Bone

(ix) Measurement of Creatinine is a measure of

(a) Effective renal blood Flow

(b) Renal drug excretion rate

(c) Renal Secretion rate

(d) Glomerular filtration rate

(x) Co administration of probenecid with penicillin will

(a) Increase t1/2 of penicillin

(b) Increase metabolism of penicillin

(c) Decrease t1/2

(d) Increase absorption of penicillin

2. (a) Explain with classification various mechanisms of drug absorption through GIT. (7)

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

3. (a) Give a description of the various biological barriers involved in distribution of drugs. (7)

(b) Give a detailed description of Kinetics of Protein Drug Binding with suitable graphs. (8)

4. (a) Classify the different metabolic pathways. Explain in details on various Phase II reactions of biotransformation. (3+6)

(b) Give some methods of enhancement of drug transport across BBB. (6)

5. (a) Discuss in details the various processes and factors effecting renal clearance of drugs. (7)

(b) Explain what you mean by Renal Clearance and Renal Function. Explain in details on dose adjustment in renal failure. (2+6)

6. (a) Classify the different methods of measurement of bioavailability. Explain the Plasma level time study method in details. (2+6)

(b) Explain with the help of a suitable protocol, different aspects of bioéquivalence study. (7)

7. (a) Give the different methods for measurement of first order rate absorption constant. Explain in details the method of residuals. (4 + 6)

(b) Give a detailed description of Plasma level time curve. (5)

8. (a) Explain in detail on one compartment open model for i.v bolus dose. (8)

(b) Determine the different pharmacokinetics parameter from the given plasma level time data. (7)

Plasma drug oncentration (μg/ml)	Time (hr)
4	1
6	2
9	3
11	4
14	6
12	8
7	12
2	24

9. (a) Write a note of invitro-invivo correlation. (7)

(b) Explain the pH partition theory briefly. (8)
