B.Pharm. (CBCS Pattern) Semester - VI

BP604T - Biopharmaceutics and Pharmacokinetics

P. Pages : 3 **GUG/S/23/14140**

Time : Three Hours * 2 8 7 3 * Max. Marks : 75

Notes : 1. All questions carry equal marks.
2. Assume suitable data wherever necessary.
3. Diagrams and Chemical equation should be given wherever necessary.
4. Illustrate your answers wherever necessary with the help of neat sketches.
5. All the questions are compulsory.

1. i) Which drugs easily bind to AAG? **20**

a) Acidic drugs b) Lipophilic drug
c) Basic drugs d) Neutral drug

ii) Which form of the drug shows rapid dissolution rate?

a) Crystalline b) Amorphous
c) Hydrate d) None of the above

iii) Out of following Tmax, Which Tmax indicates faster drug absorption.

a) 16 hours b) 3 hours
c) 4 hours d) 2 hours

iv) The process of engulfing of particulate material is called as

a) Phagocytosis b) Active transport
c) Pinocytosis d) Connective transport

v) Which compounds are excreted through the lungs?

a) Lipophilic b) Gaseous
c) Liquid Hydrophilic d) Solid less than 100 Dalton

vi) What does pharmacodynamics exclude

a) Interaction of substance b) Localization of drug action
c) Mechanism of drug action d) Excretion of substance

vii) Protein binding ---------- the distribution of drugs.

a) Decrease b) Increase
c) No change d) None of the above

viii) P - Aminohippuric acid is used to measure.

a) GFR b) Tubular reabsorption
c) Tubular active secretion d) None of the above

ix) Non compartmental approach, based on the ---------- theory.

a) Diffusion b) Dissolution
c) Statistical moments d) Surface Renewal

x) Which of the following is known as Tamoxifen binding site?

a) Site I b) Site II
c) Site III d) Site IV

xi) ---------- is the tight junctions between sertoli cells

a) BBB b) Placental Barrier
c) Blood testis barrier d) Endothelial Barrier

xii) Time active steady state drug levels is inferenced by --------

a) Dosing internal b) Dose size
c) Loading dose d) Number of dose

xiii) Renal excretion of drug depends on

a) Urine flow
b) pH of urine
c) Physio chemical properties of drug
d) All of the above

xiv) Drug having -------kal f- lives take a very short time to achieve plateau concentration

a) shorter b) Longer
c) Intermediate d) None of the above

xv) When dosing Interval $\tau = t1/2$ the $C_{max} = ----$

a) $2C_o$ b) C_o
c) Xm d) $2 \times m$

xvi) The primary pharmacokinetics parameter clearance can be calculated by

a) $Cl_T = K_E Vd$ b) $Cl_T = FXo / AUC$
c) $Cl_T = 0.693.Vd / t1/2$ d) All of the above

xvii) Method of residual is also known as ----------

a) Feathering method b) Peeling method
c) Both A & B d) None of the above

xviii) Non linear pharmacokinetic is also known as ----------

a) Dose dependent b) Enzyme capacity limited
c) Saturation pharmacokinetic d) All of the above

xix) USP apparatuss is ----------

a) Flow through cell b) Paddle over disk
c) Cylinder d) Reciprocating disk

xx) The AVC expressed in

a) Meg. hours/ml b) Meg. ml/hours
c) Meg/ml. hours d) Meg/ml

2. Solve **any two**. **20**

a) Describe about the measurement of Bioavailability in details.

b) List various factors affecting absorption & explain in details. Pharmaceutical factors affecting absorption of drug from GIT tract.

c) Discuss the non – renal routes of drug excretion.

3. Solve **any seven**. **35**

a) Discuss the kinetics of protein binding.

b) What is pH partition hypothesis give its limitations?

c) Write short note on sigma minus method.

d) Describe about the physiological model.

e) What is apparent volume of distribution.

f) Explain the levels of Invitro Invivo correlation.

g) Explain the process urinary excretion.

h) Discuss steady state drug levels.

i) Define Biotransformation. Explain any two phase II reactions.

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