B.Pharm. (CBCS Pattern) Semester-VI

BP604T - Biopharmaceutics and Pharmacokinetics

P. Pages : 3 **GUG/S/25/14140**

Time : Three Hours * 2 4 3 2 * Max. Marks : 75

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

1. Multiple choice question. **20**

1) -------- is the tight junction between Sertoli cells.
   a) BBB b) Placental barrier
   c) Blood-tests barrier d) Endothelial barrier

2) Drug distribution in organ depend on ------
   a) Organ size b) Perfusion rate
   c) Partition coefficient d) All

3) Noyes and Whitney equation is used to describe
   a) Absorption b) Dissolution
   c) Distribution d) Disintegration

4) In one compartment open model, the term open indicate input and output is
   a) Unidirectional b) Bidirectional
   c) Non-directional d) None

5) Tubular reabsorption is achieved by --------
   a) Active process b) Passive process
   c) Both a and b d) None

6) The Phenomenon of decreased drug metabolizing ability of enzyme by drug is known as ---------
   a) Enzyme enduction b) Enzyme inhibition
   c) Both a and b d) None

7) Lipid Soluble drugs have
   a) Low Vd b) High Vd
   c) No Vd d) None

8) Which of the following is known as Tamoxifen binding site?
   a) Site I b) Site II
   c) Site III d) Site IV

9) -------- is known as nonionic diffusion.
   a) Passive diffusion b) Ion-Pair transport
   c) Pore transport d) Endocytosis

10) Drug -------- refers to study of process occurring after absorption of drug.
a) Absorption b) Metabolism
c) Disposition d) None

11) The process of engulfing of particulate material is called --------
a) Pinocytosis b) Phagocytosis
c) Connecting transport d) Facilitated diffusion

12) Which one of the following has very low perfusion rate?
a) Fats and bone b) Muscle and skin
c) Lungs and kidney d) Liver and Heart

13) Which route of drug administration show 100% bioavailability?
a) Oral b) Intravenous
c) Rectal d) Topical

14) In which model compartment are joined in series?
a) Compartment model b) Catenary model.
c) Physiologic model d) Mammillary model

15) The ratio of loading dose to maintenance dose is called.
a) Fluctuation b) Dose ratio
c) Dosage regimen d) Steady state

16) Under non-sink condition dissolution order is
a) Zero order b) First order
c) Second order d) Pseudo order

17) Primary binding site for albumin is ------- binding site.
a) Warfarin b) Diazepam
c) Digitoxin d) Tamoxifen

18) Bioavilability of drug from topical administration is affected by -----
a) Skin condition b) Topical vehicle
c) Application condition d) All of the above

19) Half life of zero-order process is proportional to ------- of drug.
a) Initial concentration b) Final concentration
c) Both a and b d) None

20) As per BCS system, class I drug comes under.
a) High solubility high permeability
b) Low solubility high permeability
c) High solubility low permeability
d) Low solubility low permeability

2. Long answer questions solve **any two**. **20**

a) Write in detail factor affecting protein drug binding & significance of protein / tissue binding of drug.

b) Enlist factor affecting absorption and explain in detail patient related factor affecting drug absorption.

c) Discuss the non-renal route of drug execution.

3. Short answer question solve **any seven.** **35**

a) Describe about Physiological model.

b) Write a note on Renal clearance.

c) Write a factor causing Non linearity.

d) Write in short Pharmacokinetic model.

e) Write In-Vitro drug dissolution testing model.

f) Explain in brief about theories of drug dissolution.

g) Write a short note on pH Partition hypothesis and give its limitation

h) Explain Michaelis Menton equation

i) What is compartment model? Explain in detail compartment model.

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