(Bio-pharmaceutics & Pharmacokinetics Question Bank SEM-VIII)

Q.1 ……..is defined as rate and extent of drug absorption.

a. Bioavailability b. Bioequivalence

c. drug disposition d. absorption

Q.2. The movement of drug from one compartment to other compartment is referred as…

a. Bioavailability b. drug distribution

c. drug disposition d. absorption

Q.3. Passive transport process involve all except…….

a. Passive difussion b. Pore transport

c. ion-pair transport d. Antiport

Q.4. Facillated diffusion is also known as…..

a. Active difussion b. mediated diffusion

c. ion-pair transport d. Symport

Q.5. …….. is active transport process

a. Persorption b. Pinocytosis

c. Phagocytosis d. ion-pair transport

Q.6. BCS Class III have….

a. Low solubility & Low permeability

b. High solubility & low permeability

c. Low Solubility & High permeability

d. High solubility & high permeability

Q.7. Equation for zero order half life is……

a. $t_{1/2}= 0.5\ A_0/k_0$ b. $t_{1/2}= 2A_0/k_0$

c. $t_{1/2}= 1.5\ A_0/k_0$ d. $t_{1/2}= 0.693\ A_0/k_0$

Q.8. Equation for first order half life is……

a. $t_{1/2}= 0.5\ A_0/k_0$ b. $t_{1/2}= 2A_0/k_0$

c. $t_{1/2}= 1.5\ A_0/k_0$ d. $t_{1/2}= 0.693/k$

Q.9. In cell uptake studies use of peristaltic pump is required for…….

a. Single pass perfusion b. Everted Sac Technique

c. Doluisio method d. Everted Ring Technique

Q.10. Blood brain barrier consist of specialized cells except……

a. Astrocytes b. Endoblasts

c. Pericytes d. Endothelial cells

Q.11. Formula for volume of distribution is……

a. Vd= C/X b. Vd= X/C

c. Vd= Ke/X d. Vd= Ke/C

Q.12. Resident time for large intestine is……

a. 2 hrs b. 6-12 hrs

c. 4 hrs d. 3 hrs

Q.13. Intestinal transit time for Duodenum is…….

a. 0.5 to 1 hrs b. 3 to 6 hrs

c. 2 hrs d. 5 minute

Q.14. Majority of drug that binds to extravascular tissues, the order of binding is

a. Liver>Kidney>Lung>Muscles b. Lung>Liver>Kidney>Muscles

c. Liver> Lung >Kidney >Muscles d. Liver>Kidney> Muscles>Lung

Q.15. Which of this is not phase II reaction

a. Acetylation b. Methylation

c. Hydrolysis of esters d. Conjugation of glucoronic acid

Q.16. Clearance is defined as the ration of…….

a. Elimination rate/Plasma drug Concentration

b. Plasma drug Concentration/ Elimination rate

c. Vd/AUC d. AUC/Vd

Q.17. The beginning of pharmacological response is called as….

a. Onset time b. Duration of action

c. Onset of action d. Intensity of action

Q.18. Which of this is model independent approach of pharmacokinetics….

a. Mammillary model b. Perfusion model

c. Distributed parameter model d. Noncompartmental analysis

Q.19. Absorption rate constant can be calculated by ….

a. Method of residuals b. Sigma minus method

c. Model independent method d. Noncompartmental analysis

Q.20. First order pharmacokinetic model equation is ….

a. $LogC = LogC_0 - K_Et/2.303$ b. $LogC = LogC_0 - K_E/2.303$

c. $LogX = LogC_0 - K_Et/2.303$ d. $LogC_0 = LogC - 2.303/K_Et$

Q.21. Bioavailability is generally in the order of……

a. Oral> Parenteral>Rectal>Topical b. Parenteral>Oral> Topical> Rectal

c. Oral>Parenteral>Topical >Rectal d. Parenteral>Oral>Rectal>Topical \

Q.22. Flow through cell belongs to which type of USP appratus ….

a. USP type 1 b. USP type 2

c. USP type 4 d. USP type 3

Q.23. ..is used for molecular inclusion complexation for solubility enhancement of drugs

a. Sodium Lauryl suphate b. Cyclodextrine
c. CMC d. HPMC

Q.24. IV bolus dose of 200 mg given by IV. Following one compartment kinetics described by equation C= e-0.91t. Claculate ClT, Vd.

a. 0.0173 ml/min, 1.44 ml b. 0.0273 ml/min, 2.5 ml

c. 0.0785 ml/min, 3.22ml d. 0.0673 ml/min, 4.44 ml

Q.25. IV bolus dose of 25mg given by IV. Following one compartment kinetics having half life is 36 hrs and volume of distribution is 27000 lt. Claculate ClT, C_0.

a. 8640 ml/min, 0.00092 mg/lit b. 5220 ml/min, 0.92 mg/lit

c. 8520 ml/min, 0.92 mg/lit d. 5220 ml/min, 0.092 mg/lit

Q.26 The enteral route of administration involves all except

a. Buccal b. Gastrointestinal

c. Rectal d. Subcutaneous

Q.27. The USP apparatus type 5 is…

a. Paddle over disk b. Cylinder

c. Reciprocating disc d. Flow-through cell

Q.28. Model independent approach belongs to ……. pharmacokinetic model

a. Physiological b. Compartment

c. Distributed d. Non-compartment

Q.29. In method of dissolution comparison the values f1 and f2 refers to…&.…

a. Dissolution factor, Difference Factor b. Difference Factor, Dissolution factor

c. Difference Factor, Similarity factor d. Similarity factor, Difference Factor

Q.30. BCS class IV drugs have …….

a. Low solubility & High permeability b. Low solubility & Low permeability

c. High solubility & High permeability d. High solubility & Low permeability

Q.31. Movement of drug molecules through the skin under the influence of ultrasound is known as**……**

a. Phonophoresis **b.** Iontophoresis

c. Phagocytosis **d.** Endocytosis

Q.32. Unionised drug have……&……values

a. Low K_b & High $K_{o/w}$ b. High K_a & High $K_{o/w}$

c. High K_a & High $K_{o/w}$ d. Low K_a & High $K_{o/w}$

Q.33. For the disruption of Blood brain barrier following agents are used except…

a. Dyhydropyridine redox system b. Sodium Chloride

c. Mannitol d. Dimethyl sulphoxide

Q.34. Thiopental is……&…… acting drug

a. Hydrophobic, Peripherally b. Lipophilic, Peripherally

c. Hydrophilic, Centrally d. Lipophilic, Centrally

Q.35. Marker used to measure the volume of Erythrocytes in physiological fluid compartment is …….

a. Cr-15 b. Evance Blue

c. I-131 d. Albumin

Q.36. Binding site IV for human serum albumin is also called as……

a. Warfarin binding site b. Tamoxifen binding site

c. Diazepam binding site d. Digitoxin binding site

Q.37. Gamma globulins specifically binds to…..

a. Transcortin b. Transferrin

c. Antigens d. Carotenoids

Q.38. Mean residence time can be determined by…….

a. Compartment model b. Non-compartment model

c. Physiological model d. Trapazoidal Rule

Q.39. Route of administration considered having highest bioavailability is **….**

a. Intramuscular b. Transdermal

c. Intra-arterial d. Oral

Q.40. Equation for Clearance Cl_T are stated, all correct except……

a. Cl_T= KE*Vd b. Cl_T= (dt/dx)/Vd

c. Cl_T= 0.693 Vd/ $t_{1/2}$ d. Cl_T= FX_0/ AUC

Q.41. The ability of liver to excrete the drug in the bile is called as …….

a. Biliary clearance b. Renal Clearance

c. Volume of distribution d. Total Clearance

Q.42. Therapeutic Index and Therapeutic window are ration of….&…. respectively

a. MEC/MSC*100 & MSC/MEC*100 b. MSC/MEC & MEC/MSC

c. MSC/MEC*100 & MEC/MSC*100 d. MEC/MSC & MSC/MEC

Q.43. Which of the following belongs to Secondary transport ….

a. Organic anion transport b. Facillated diffusion

c. Antiport d. Carrier mediated transport

Q.44. Steady state concentration is the ration of ….

a. Infusion rate/ Clearance b. Clearance rate/ Blood flow

c. Vd/ Clearance d. Cl_T/Vd

Q.45. Michaelis menten equation is ….

a. dC/dt= V_{max}*C/ Km+C b. –dC/dt= V_{max}*C/ Km+C

c. dT/dC= V_{max}/ Km+C d. –dC/dt= V_{max}/ Km+C

Q.46. Bioavailability of drug is determines by formula…

a. $F= [AUC]_{oral}*Dose_{iv} / [AUC]_{iv}*Dose_{oral}$

b. $F= [AUC]_{iv}*Dose_{oral} / [AUC]_{oral}*Dose_{iv}$

c. $F= [AUC]_{iv}*Dose_{iv} / [AUC]_{oral}*Dose_{oral}$

d. $F= [AUC]_{oral}*Dose_{oral} / [AUC]_{iv}*Dose_{iv}$

Q.47. Mean residence time is the ratio of……

a. AUC/V_d b. AUC/AUMC

c. AUC/ K_E d. AUMC/AUC

Q.48. For Weak Bases formula for pH is

a. pH= pKa+ log [Ionised drug]/ [Unionised drug]

b. pH= pKa+ log [Unionised drug]/ [Ionised drug]

c. pH= pKa+ [Ionised drug]/ [Unionised drug]

d. pH= pKa+ [Unionised drug]/ [Ionised drug]

Q.49. IV bolus dose of 325 mg given by IV. Following one compartment kinetics described by equation have Vd= 960 lit & half-life 14 hrs. Calculate Cl_T, C_0.

a. 620 ml/min, 0.101 mg hr/lit b. 420 ml/min, 0.868 mg hr/lit

c. 340 ml/min, 0.412 mg hr/lit d. 792 ml/min, 0.3385 mg hr/lit

Q.50. IV bolus dose of 125 mg given by IV. Following one compartment kinetics having half life is 12 hrs and volume of distribution is 8000 lt. Calculate ClT, C_0.

a. 7700 ml/min, 0.015625 mg/lit b. 6255 ml/min, 0.1269 mg/lit

c. 3685 ml/min, 0.258 mg/lit d. 6156 ml/min, 0.2536 mg/lit