Online Examinations (Even Sem/Part-I/Part-II Examinations 2020 - 2021)

Course Name - –Biopharmaceutics and Pharmacokinetics
Course Code - BP604T

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Answer all the questions. Each question carry one mark.

9. 1.What is the characteristic of delayed transit and continuous release systems?

Mark only one oval.

- [ ] Release the drug along the entire length of GIT
- [ ] Prolonged their residence in the GIT and release
- [ ] Release only at a specific drug
- [ ] Release as soon as comes in contact to the saliva

10. 2What is the characteristic of matrix dissolution-controlled release systems?

Mark only one oval.

- Release the drug along the entire length of GIT
- Prolonged their residence in the GIT and release
- Release only at a specific drug
- Employ waxes to control the rate of dissolution

11. 3.What are the characteristics of Matrix diffusion-controlled release systems?

Mark only one oval.

- Release the drug along the entire length of GIT
- Drug disperse in an insoluble matrix of rigid hydrophobic materials
- Release only at a specific drug
- Employ waxes to control the rate of dissolution

12. 4.Which is the major process of absorption for more than 90% of drugs?

Mark only one oval.

- Facilitated diffusion
- Active transport
- Endocytosis
- Passive diffusion

13. 5.Which kind of molecules cannot pass through a pore transport?

Mark only one oval.

- Low Molecular weight molecules
- Water-soluble drugs
- Molecules up to 400 Dalton
- Molecules greater than 400 Dalton

14. 6.What is the driving force of pore transport?

Mark only one oval.

- Hydrostatic pressure
- Concentration gradient
- Electrochemical gradient
- Charge equilibration

15. 7.What influences the permeation of drugs in an Ionic or Electrochemical diffusion?

Mark only one oval.

- Charge on the membrane
- Charge on the particle
- Concentration gradient
- Equilibration of charge

16. 8.Which drugs are absorbed through pore transport?

Mark only one oval.

- ◯ High lipophilicity
- ◯ Water-soluble drugs of molecular weight less than 100 Dalton
- ◯ Oily droplets
- ◯ Affinity for carriers

17. 9.Which types of drugs get absorbed by ion-pair transport?

Mark only one oval.

- ◯ High lipophilicity
- ◯ Oily droplets
- ◯ Affinity for carriers
- ◯ Drugs that ionize at all pH conditions

18. 10.Transfer of an endocytic vesicle from one extracellular compartment to another is known as-

Mark only one oval.

- ◯ Phagocytosis
- ◯ Transcytosis
- ◯ ΩPinocytosis
- ◯ Endocytosis

19. 11,Which part of the membrane is responsible for the relative impermeability of polar molecules in and out of the cell?

Mark only one oval.

- Polar head
- Hydrophobic head
- Hydrophobic core
- Non polar head

20. 12.What is the most important characteristic of a drug to be absorbed after oral administration?

Mark only one oval.

- Dissolved in HCL
- Dissolved in alkaline solution
- Can pass through the cell membrane
- Form aggregate and settle down

21. 13.Which one of these is an example of enteral route?

Mark only one oval.

- Skin
- I.V.
- Gastrointestinal
- Inhalation

22. 14.Gastrointestinal route is an example of which of the major drug delivery routes?

Mark only one oval.

- The enteral route
- The parenteral route
- The topical route
- The intravenous route

23. 15.The onset of drug action depends on the rate of:

Mark only one oval.

- Drug absorption
- Drug dissociation
- pH
- GI motility

24. 16.Movement of ions through the pores in cell membrane can be controlled by-

Mark only one oval.

- Counter ion transport
- Expenditure of intracellular energy
- Both a & b
- None of these

25. Which one of the following has very low perfusion rate?

Mark only one oval.

- Fat and bone
- Muscle and skin
- Lungs and kidney
- Liver and Heart

26. 18.What happens when an obese person is given with a lipophilic drug?

Mark only one oval.

- Drug aggregation will begin
- He cannot absorb lipophilic drugs
- High adipose tissue take up most of the lipophilic drug
- A large amount of drug is needed as the person's weight is more

27. 19.Who has poorly developed BBB?-

Mark only one oval.

- Infants
- Adults Of age more than 20
- Aged
- Children at puberty

28. 20.Who has higher fat content?

Mark only one oval.

- Adults of age over 60
- Adults of age more than 30
- Infants and elders
- At the time of puberty

29. 21.What should be the molecular weight of the drug molecules so that they can easily pass through the membrane?

Mark only one oval.

- 600-800 Dalton
- 500-600 Dalton
- 200-400 Dalton
- 300-500 Dalton

30. 22.Which of the following drug cannot pass through the plasma membrane barrier?

Mark only one oval.

- Drug size less than 50 Dalton
- Lipophilic drugs 50-600 Dalton
- Polar or ionized drugs of size greater than 50 Dalton
- Drug size more than 600 Dalton

31. 23.Which cell make up the blood-brain barrier?

Mark only one oval.

- Squamous epithelium cells
- Fat cells
- Red blood cell
- Endothelial cells

32. 24.In equation, X=Vd*C, what does Vd denotes?

Mark only one oval.

- Density
- Volume of blood
- Volume of body
- Volume of distribution

33. 25.The body water has 3 distinct compartments. Which one of these is not one of the compartments?

Mark only one oval.

- Vascular fluid
- Intracellular fluid
- Extracellular fluid
- Between the tissue layers

34. 26.How a patient's plasma volume can be determined?

Mark only one oval.

- Evans blue
- Na+
- D20
- Tritiated water

35. 27.Which one of the below does not belong to the 4 classes of lipoprotein?

Mark only one oval.

- Chylomicrons
- Very low-density lipoproteins
- High-density lipoprotein
- Fatty acids

36. 28.Which drugs bind to RBC membrane?

Mark only one oval.

- Pentobarbital
- Acetazolamide
- Imipramine
- Phenytoin

37. 29.What is the molecular weight cut off for biliary excretion?

Mark only one oval.

- Less than 300 Dalton
- More than 300 Dalton
- Less than 200 Dalton
- More than 200 Dalton

38. 30.For a certain drug, the bile flow rate is 0.7 ml/mm, the biliary drug concentration is 2g/ml and the plasma drug concentration is 0.8g/ml. What will be the bile clearance?

Mark only one oval.

- 1.50 ml/mm
- 1.75 ml/mm
- 2.75 ml/mm
- 3 ml/mm

39. 31.Which compounds are excreted through the lungs?

Mark only one oval.

- Lipophilic
- Gaseous
- Liquid and hydrophilic
- Solid less than 100 Dalton

40. 32.What is the pH of the milk secreted by human mothers?

Mark only one oval.

- 6.4-7.6
- 5.4-6.6
- . 7-8
- 6-7

41. 33.Which of the following is not a factor influencing pulmonary excretion?

Mark only one oval.

- Pulmonary blood flow
- The solubility of volatile substance
- Rate of respiration
- Heart rate

42. 34.How is renal clearance expressed mathematically?

Mark only one oval.

- Rate of urinary excretion/plasma drug concentration
- Plasma drug concentration/rate of urinary excretion
- 1/ Plasma drug concentration
- 1/ Rate of urinary excretion

43. 35.What is the equation for clearance?

Mark only one oval.

- Elimination rate / plasma drug concentration
- Plasma drug concentration/elimination rate
- 1 / Plasma drug concentration
- 1 / Elimination rate

44. 36.What will be the elimination rate if the clearance is 130 ml/min and drug concentration is 0.8 g/ml?

Mark only one oval.

- 104 g/min
- 140 g/min
- 130 g/min
- 100 g/min

45. 37.What will be the renal clearance ratio of a drug whose renal clearance is 40 ml/min and the clearance of creatinine is 95 ml/min?

Mark only one oval.

- 0.421
- 2.38
- 0.010
- 0.025

46. Which of the following is not a physicochemical factor of drug that can affect the renal excretion?

Mark only one oval.

- Molecular size
- Disintegration rate
- pKa of the drug
- Lipid solubility

47. 39.Which drugs cannot be filtered through glomerulus?

Mark only one oval.

- Drugs bound to plasma proteins
- Unbound
- Free drug
- Below molecular weight of 300 Dalton

48. 40.What is the equation of bioavailable fraction?

Mark only one oval.

- 1/Bioavailable dose
- 1/Administered dose
- Bioavailable dose/ Administered dose
- Administered dose/ Bioavailable dose

49. 41.Which of the following is the pharmacodynamics method of studying bioavailability?

Mark only one oval.

- Acute pharmacologic response
- Plasma-level time studies
- Urinary excretion studies
- Stool excretion studies

50. 42.Which of the following will not be a parameter that should be examined for urinary excretion data?

Mark only one oval.

- (dXu/dt)max
- (tu)max
- Xu
- Cmax

51. 43.On which individuals study of newly invented medicines are not done?

Mark only one oval.

- Pregnant and elderly
- Fasting person
- Healthy person
- Adult male

52. 44.A drug can be 100 % bioavailable, if it is administered by-

Mark only one oval.

- Oral route
- Intravenous route
- Transdermal route
- Rectal route

53. 45.What does the word “open” mean in the one compartment open model?

Mark only one oval.

- The drug easily enters
- The drug readily mixes with the blood
- Unidirectional input and output
- Easy absorption

54. 46.How much time does an intravenously administered drug take to complete a complete circulation?

Mark only one oval.

- 5-8 min
- 7-10 min
- 1-3 min
- 1 min

55. 47.What is the equation to find out the apparent volume of distribution?

Mark only one oval.

- Amount of drug in the body/plasma drug concentration
- Plasma drugconcentration/amount of drug in the body
- 1 / plasma drug concentration
- 1 / Amount of drug in the body

56. 48.The i.v. bolus dosage is 500mg and the plasma drug concentration is 0.8 mg/ml. What should be the volume of distribution?

Mark only one oval.

- 625 mg/ml
- 625 l
- 625 ml
- 0.0016 mg/ml

57. 49.To have a plasma distribution value of 900 ml and plasma drug concentration to be 1.2 mg/ml what should be the amount of drug that should be given to the patient?

Mark only one oval.

- 1080 ml
- 1080 g
- 1080 mg
- 1g/ml

58. 50.Which organ comprises the peripheral compartment in a two compartment model?

Mark only one oval.

- Liver
- Lungs
- Kidneys
- Muscles

59. 51.Which of the following is not a category of 2 compartment model?

Mark only one oval.

- Two compartment model with elimination from the central compartment
- Two compartment model with elimination from only plasma and blood
- Two compartment model with elimination from the peripheral compartment
- Two compartment model with elimination from both the compartments

60. 52.Which of the following is not a mechanism for pharmacokinetic analysis?

Mark only one oval.

- Compartment analysis
- Non compartment analysis
- Physiologic modeling
- Human model

61. 53.In which of the following models the body is considered to be composed of several compartments?

Mark only one oval.

- Compartment model
- Noncompartment model
- Physiologic model
- Human model

62. 54.In which model compartments are joined in series?

Mark only one oval.

- Compartment model
- Caternary model
- Physiologic model
- Mammillary model

63. 55.Which of the following is not a characteristic of the caternary compartment model?

Mark only one oval.

- It gives a visual representation of various rate processes in drug disposition
- It shows how many rate constants are necessary
- Compartments and parameters bear a relationship with physiologic functions
- Useful in predicting drug

64. 56.Which pharmacokinetic model is drawn on the basis of anatomic and physiologic data?

Mark only one oval.

- Compartment model
- Caternary model
- Physiologic model
- Mammillary model

65. 57.Which of the following will be a disadvantage for the physiologic model?

Mark only one oval.

- Prediction of drug concentration in various body regions
- Correlation of data in several animal species
- Obtaining experimental data for each of the organs
- The model gives an exact description of the drug concentration-time profile for any organ

66. 58.In pharmacokinetics, the term ‘rate’ refers to a change in which of the following measurements over time.

Mark only one oval.

- Drug dose
- Drug elimination
- Concentration of drug in plasma
- Drug metabolism

67. 59.The most commonly used model in clinical pharmacokinetic situations is the:

Mark only one oval.

- One-compartment model
- Two-compartment model
- Multicompartment model
- Non-compartmental model

68. 60.The amount of drug per unit of volume is defined as the:

Mark only one oval.

- Volume of distribution
- Concentration
- Rate
- Absorption

69. 61.In pharmacokinetics, what does “smooth tissue” mean?

Mark only one oval.

- Rich in water
- Most accessible for drugs
- Bone tissue
- Deformable mechanically

70. 62.Which method is not suitable to calculate area under the curve?

Mark only one oval.

- Least square method
- Weighing
- Trapezoidal rule
- Integration of curve

71. 63.At a constant clearance rate, a drug with increased Vd, will have -

Mark only one oval.

- Longer elimination half life
- Reduced elimination half life
- No effect on half life
- .Fluctuating half life

72. 64.In which case t1/2 is independent of drug concentration

Mark only one oval.

- First order
- Zero order
- Second order
- Non-linear

73. 65.Which marker is used to estimate volume of plasma?

Mark only one oval.

- Evans blue
- Cr-51
- HTO
- Antipyrine

74. 66.Unit of AUC is -

Mark only one oval.

- Mg/L.h
- mg.L.h
- (mg/L).h
- mg.L/h

75. 67.Clearance is determined as the ratio of

Mark only one oval.

- Rate of Absorption to Plasma drug concentration
- Rate of Elimination to Volume of distribution
- Rate of Elimination to Plasma drug concentration
- Option 4Rate of Elimination to Plasma drug concentration

76. 68.The loading dose of a drug is usually based on

Mark only one oval.

- Total clearance of the drug
- Plasma protein binding percentage
- Fraction of drug excreted unchanged in urine
- Apparent volume of distribution and desired steady state drug concentration in plasma

77. 69.Which is not a factor influencing the plasma elimination half life of a drug?

Mark only one oval.

- Aparent volume of distribution
- Protein binding
- Clearance
- Route of administration

78. 70.Which of the following drug obeys three compartmental open model drug disposition?

Mark only one oval.

- Tubocurarine
- Theophylline
- Metoclopramide
- Ampicillin

79. 71.The objective of pharmacokinetic model is to quantify the drug content in-

Mark only one oval.

- Dissolution
- Distribution
- Disintegration
- Diffusion

80. 72.A system showing dose dependent pharmacokinetics, will follow-

Mark only one oval.

- Linear pharmacokinetics
- Non-linear pharmacokinetics
- Zero order
- Pseudo first order

81. 73.Which of the following statement is correct with respect to non-linear pharmacokinetics?

Mark only one oval.

- First order
- First order followed by zero orde
- Pseudo first order
- Zero order

82. 74.Double reciprocal plot of Michaelis- Menten equation is also called as-

Mark only one oval.

- Hanes- Woolf plot
- Lineweaver- Burke plot
- Scatchard plot
- Metabolism

83. 75.Which of the following is not involved in non-linear pharmacokinetics?

Mark only one oval.

- Binding to proteins and tissue
- Release and dissolution
- Enzymes or carrier systems
- Diffusion and permeability