Physical Pharmaceutics I

B.Pharmacy First Internal Examination 2020-2021
Date: 14-07-2020
Semester : 3
Subject: Physical Pharmaceutics I
INSTRUCTIONS:
1.All questions are Compulsory
2.Each question carries 1 mark
* Required

1. Email address *

_____

2. ENROLLMENT NO *

_____

3. FULL NAME OF THE STUDENT *

_____

4. 1.Which of the following influence distribution of the solute between immiscible liquids *

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- ◯ Pressure
- ◯ Shaking time
- ◯ stirring time
- ◯ Temperature

5. 2. The process of transferring a solute between two immiscible phases is known as *

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- ◯ diffusion
- ◯ dissociation
- ◯ dissolution
- ◯ distribution

6. 3.Partition coefficient is also known as *

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- Arrhenius dissociation
- Fick's Diffusion
- Nerst diffusion
- Whiteney's dissolution

7. 4.The week electrostatic interaction between the two polar molecules is known as *

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- Dipole-dipole force
- hydrogen bonding
- ion-dipole forces
- london forces

8. 5. Which of the following law is nearly related to nernst distribution *

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- daltons law
- henry's law
- ideal law
- raoults law

9. 6. Which of the following modes of expressing concentration is independent of temperature *

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- Molarity
- Formality
- Mole fraction
- Normality

10. 7. Which is not a limitation of distribution law *

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- ◯ Mixing time
- ◯ Dilute solution
- ◯ non miscibility of liquid phases
- ◯ same molecular state

11. 8.When sucrose is added to water the resulting form is *

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- ◯ Emulsion
- ◯ ointment
- ◯ solution
- ◯ suspension

12. 9. Which one is an application of supersaturated solutions *

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- ◯ crystallization
- ◯ distillation
- ◯ drying
- ◯ milling

13. 10.The dose of the solid drug delivery is *

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- ◯ Between saturated and supersaturated solubility
- ◯ in the range of unsaturated solubility
- ◯ more than the saturated solubility
- ◯ more than the supersaturated solubility

14. 11.Aqueous solubility of drug is important for the following preparations *

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- ◯ liquid orals
- ◯ liquid orals,IV injections
- ◯ liquid orals,IV injections and infusions
- ◯ liquid orals,IV injections, infusion and tablets

15. 12. Which of the factor frequently uses the preparation of saturated solutions *

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- ◯ Addition of cosolvent
- ◯ addition of immiscible solvent
- ◯ initially maintaining high temperature
- ◯ providing agitation

16. 13. which one of the following is a frequently used cosolvent *

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- Ethyl alcohol
- glycerin
- polyethylene glycol
- propylene glycol

17. 14. in micellar solubilization which of the following agent is used *

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- acetone
- ehtyl oleate
- polyethylene glycol
- tween 80

18. 15. Which theory proposed that the affinity of unlike molecules is the same as those observed between like molecules *

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- ideal solutions
- molecular dispersion
- non ideal solution
- regular solution

19. 16. Hildebrand scatchard equation is applicable to one of the following type of the solutions *

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- Equilibrium
- ideal
- non-ideal
- regular

20. 17. In a saturated solution of a drug one of the following conditions is correct *

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- ◯ rate of crystallization is zero
- ◯ Rate of crystallization < Rate of dissolution
- ◯ Rate of crystallization = Rate of dissolution
- ◯ Rate of crystallization >Rate of dissolution
- ◯ Other: _____

21. 18. If the concentration of solid in liquid is higher than the equilibrium solubility such a solution is known as *

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- ◯ equilibrium solution
- ◯ saturated solution
- ◯ supersaturated solution
- ◯ unsaturated solution

22. 19.Which is the correct definition of solubility in the given *

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- ◯ Ability of immiscible liquids droplets to disperse with in a second liquid
- ◯ ability of solid particles to disperse through the liquid continuous phase
- ◯ ability of solute to dissolve in the solvent
- ◯ rate at which the solute dissolves into the solvent

23. 20. name the process in which ions are surrounded by water molecules *

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- ◯ dissolution
- ◯ electrolysis
- ◯ hydration
- ◯ solvation

24. 21.Which of the following factor does not effect the solubility of solid in liquid *

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- ◯ temperature
- ◯ pressure
- ◯ size of the particles
- ◯ nature of solvent

25. 22.Which one of the following is a universal solvent *

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- ◯ ethanol
- ◯ acetone
- ◯ veniger
- ◯ water

26. 23. Dynamic equilibrium exists in one of the following solutions *

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- ◯ Dilute solutions
- ◯ saturated solutions
- ◯ supersaturated solutions
- ◯ unsaturated solutions

27. 24. Which of the following method is not used to separate the undissolved solid from saturated solution *

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- ◯ Centrifugation
- ◯ decantation
- ◯ evaporation
- ◯ filtration

28. 25.Which one of the following is NOT a partial solubility parameter of a substance *

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- dielectric constant
- dispersion component
- hydrogen bonding component
- polar component

29. 26. which of the following solid form has low aqueous solubility *

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- amorph
- anhydride
- crystalline
- polymorph

30. 27. Which factor does not increase the speed at which solid dissolves in water *

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- adding more solute
- crushing the solid
- heating the mixture
- stirring the solution

31. 28.The relationship between the rate of diffusion of drug across the biological membrane and the concentration gradient is *

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- directly proportional
- exponential
- inversely proportional
- log linear

32. 29.Which one of these drugs diffuses easily through the membrane at gastric region *

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- ◯ Aspirin
- ◯ chloroquine
- ◯ morphine
- ◯ riboflavin

33. 30. which one of these drugs diffuses easily through the membrane at intestinal portion of GIT. *

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- ◯ Aspirin
- ◯ Chloroquin
- ◯ paracetamol
- ◯ tolbutamide

34. 31.Generally the passage of drug molecules across a cell membrane from a region of high concentration to a region of low concentration is known as *

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- ◯ carrier mediated
- ◯ dissolution
- ◯ passive diffusion
- ◯ pinocytosis

35. 32. Dielectric constant measures the capacity *

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- ◯ altering the optical rotation of the molecules
- ◯ developing optical activity of the molecules
- ◯ inducing dipoles in the neighboring molecules
- ◯ rotating the line of refraction of liquid

36. 33.Dielectric constant is a property applied for *

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- ◯ percent composition
- ◯ polarity scale
- ◯ qualitative analysis
- ◯ structural elucidation

37. 34. Which one of the following is the physical property of molecules *

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- ◯ dielectric constant
- ◯ dipole moment
- ◯ molar refraction
- ◯ all the above

38. 35.Relation ship between dielectric constant and solubility *

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- ◯ Higher the dielectric constant higher the solubility
- ◯ Higher the dielectric constant lower the solubility
- ◯ lower the dielectric constant higher the solubility
- ◯ not related to each other

39. 36. the dielectric constant of A,B, AND C respectively are 78.50,2.23 and 32.60. arrange them in the order of increasing polarity *

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- ◯ a>b>c
- ◯ b>c>a
- ◯ a>c>b
- ◯ c>a>b

40. 37. Dipolar molecule means *

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- even distribution of charges
- look similar to ellipsoid
- mirror images of poles
- uneven distribution of charges

41. 38.the electricity stored in a condenser is directly proportional to *

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- pressure
- potential difference
- capacitance
- none of the above

42. 39. If the condenser contains vacuum its capacitance is considered is *

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- one
- two
- cannot be known
- infinity

43. 40.Which molecule is defined as the one which the regions of positive and negative regions are well separated due to uneven distribution of charges *

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- adhesive molecule
- cohesive molecule
- dipolar molecule
- non polar molecule

44. 41.Mathematically dipole moment can be expressed as product of *

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- charge and distance
- charge and pressure
- charge only
- charge and charge

45. 42.Which of the following is an application of dipole moment *

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- identify shape and bond angle
- identify shape of the molecule
- deciding the ionic strength
- all the above

46. 43.If the light passes from rarer to denser medium it reflects ..... from the normal *

Mark only one oval.

- ◯ towards
- ◯ away
- ◯ far away
- ◯ does not cross

47. 44. RI is indicated as ratio of angle of incidence to angle of refraction by .....law *

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- ◯ snells
- ◯ raoults
- ◯ daltons
- ◯ henry

48. 45. Molar refraction is related to molecular properties and ..... *

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- dipiole moment
- RI
- Polarity
- molar volume

49. 46.When viewed through the telescope the field of view is divided in the abbe's refractometer *

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- bright and dark portions
- bright portions
- dark portions
- colored portions

50. 47. Ability of the substances to rotate the plane polarized light is *

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- ◯ molar refraction
- ◯ dipole moment
- ◯ optical activity
- ◯ none of the above

51. 48. optical rotation is indicated by the symbol *

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- ◯ alpha
- ◯ beta
- ◯ gamma
- ◯ delta

52. 49.polarimeter is used to measure *

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- optical activity
- refractive index
- dipole moment
- dielectric constant

53. 50. Molecules having asymmetric center about a single plane are *

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- optically inactive
- optically active
- diolar
- partially dipolar

54. 51.Concentration is directly proportional to pressure according to *

Mark only one oval.

- raoults law
- henrys law
- daltons law
- snells law

55. 52. Pair of liquids that are miscible in all proportions are known as *

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- binary liquids
- concentrated liquids
- polar liquids
- saturated liquids

56. 53. A solution of two liquids boils at a temp more than the boiling point of either of them. hence binary solutions is known as *

Mark only one oval.

- negative deviation from raoults law
- positive deviation from raoults law
- solution of raoults law
- no deviation from raoults law

57. 54. A solution of benzene and ethanol *

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- behaves like a near ideal solution
- obeys raoults law
- show positive deviation from raoults law
- show a negative deviation from raoults law

58. 55. which of the following pair of liquid shows a positive deviation from raoults law *

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- acetone-chloroform
- acetone-mehanol
- water-ethanol
- water-nitric acid

59. 56. An aqueous solution of ethanol in water has vapour pressure *

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- equal to that of water
- more than that of water
- more than that of ethanol
- less than that of ethanol

60. 57. Fractional distillation involves the separation of *

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- condensate is collected as product
- more volatile component is collected as product
- multiple vaporization and condensation cycles
- single vaporization and condensation cycles

61. 58. Vapour pressure composition plots are used in method of *

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- azeotropic distillation
- distillation
- fractional distillation
- steam distillation

64. 61. Type C gaseous solutions shows *

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- ◯ deviation from henry's law
- ◯ obeys henry's law
- ◯ does not obeys henry's law
- ◯ none of the above

65. 62.Phase rule is expressed as *

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- ◯ F=C-P+2
- ◯ F=C
- ◯ F=P
- ◯ F=C+P-2

62. 59.The phenomenon of having more affinity to the added substance than the dissolved substance is called as *

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- ◯ salting out
- ◯ concentration
- ◯ molar refraction
- ◯ sink condition

63. 60. In diffusion experiments solvent is removed and is replaced with fresh solvent each time in order to maintain *

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- ◯ constant temperature
- ◯ constant volume
- ◯ constant pressure
- ◯ sink condition

66. 63. Homogeneous physically distinct portion of system that is separate from others is *

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- component
- phase
- degrees of freedom
- none of the above

67. 64. Plots drawn between temperature and pressure are known as *

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- solubility curves
- bar graphs
- phase diagrams
- none of the above

68. 65. Process of conversion of solid directly to vapour phase is known as *

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- CST
- GST
- Vaporization
- sublimation

69. 66.the temperature at which two conjugate solutions are mutually soluble is *

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- miscibility temp
- solubility temp
- concentation plots
- vaporization plots

70. 67.the phenol composition at maximum temperature is *

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- ◯ 34%
- ◯ 40%
- ◯ 100%
- ◯ 0%

71. 68. Transition temperature apparatus is used to determine *

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- ◯ CST
- ◯ Dielectric Constant
- ◯ polarity
- ◯ dipole moment

72. 69. If the solubility requires more than 10000 parts of solvent per unit solute to dissolve then it is described as *

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- ◯ very soluble
- ◯ sparingly soluble
- ◯ practically insoluble
- ◯ very slightly soluble

73. 70. The term sparingly soluble is used if the solubility is in the range of *

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- ◯ 30-100
- ◯ 100-1000
- ◯ 10-30
- ◯ 1-10