PARUL UNIVERSITY
FACULTY OF PHARMACY
B. Pharm Winter 2019-20 Examination

Semester: 3   Date: 21/11/2019
Subject Code: BP302T   Time: 2:00 pm to 5:00 pm
Subject Name: Physical Pharmaceutics I   Total Marks: 75

Instructions:
1. Figures to the right indicate maximum marks.
2. Make suitable assumptions wherever necessary.

Q.1 Multiple Choice Questions (MCQs) (1 Mark Each)   **(20)**

1. A) _____ is used for preservation of blood.
   - a) EDTA & Citrate
   - b) EDTA & Formalin
   - c) Citrate & Tartarate
   - d) 0.05 % salicylic acid with citrate

2. _____ is the number of moles of solute dissolved in 1s litre of solution.
   - a) Mass per volume
   - b) Molarity
   - c) Normality
   - d) Enthalpy

3. The process in which state of matter changes from solid to liquid by heating is called_____
   - a) Evaporation
   - b) Sublimation
   - c) Both a and b
   - d) Melting

4. Ability of a drug substances to exist in more than one crystalline phases is known as _____
   - a) Polymorphism
   - b) Polycrystallinity
   - c) Fusion
   - d) Crystallinity

5. The higher the surface tension of liquid, the _____ is the cohesive force of liquid
   - a) Stronger
   - b) Weaker
   - c) Double
   - d) Less

6. The CGS unit of surface tension is
   - a) N/m^2
   - b) Kg.cm
   - c) Dynes/cm
   - d) Dynes/cm^2

7. The molecules with positional order is called----------------
   - a) Smectic
   - b) Cholesteric
   - c) Plastic
   - d) Nematic

8. The efficiency of buffer to resist change in pH is called the_____
   - a) Buffer solution
   - b) Osmotic pressure
   - c) Isotonicity
   - d) Buffer capacity

9. In which method tonicity is calculated by adding water to the drugs to make an isotonic solution.
   - a) Sodium chloride equivalent method
   - b) Cryoscopic method
   - c) White Vincent Method
   - d) Potentiometric method

10. The amount of energy required to melt or boil the material is known as -------------------
    - a) Latent heat
    - b) Sublimation
    - c) Melting or fusion
    - d) Eutectic point

11. Resistance of liquid to flow is known as -------------------
    - a) Viscosity
    - b) Pourability
    - c) Fluidity
    - d) All of above

12. HLB scale was introduced by
    - a) Griffin
    - b) Brunauer
    - c) Emmett
    - d) Teller

13. Molecules with no defined melting point is
    - a) Crystalline
    - b) Liquid crystal
    - c) Amorphous
    - d) None of the above

14. Surfactants with HLB value more than 16 indicates
    - a) Wetting agent
    - b) Detergents
    - c) Spreading agents
    - d) Solubilizing agents

15. Ligands with multiple binding sites are called
    - a) Unidentate
    - b) Bidentate
    - c) Polydentate
    - d) Hexadentate

16. Jobb's method is also known as
    a) pH titration
    b) Method of Continuous variation
    c) Partition coefficient
    d) Solubility method

17. _____is the reciprocal of viscosity
    a) Fluidity
    b) Dynamic viscosity
    c) Intrinsic viscosity
    d) Relative humidity

18. An interface present between the surface of liquid and that of solid, liquid and gas is known as _____
    a) Solid interface
    b) Gas Interface
    c) Liquid interface
    d) None of above

19. Interfacial tension is _____than the surface tension.
    a) less
    b) more
    c) double
    d) equal to

20. When alcohol is added to water it appears on the water surface as -----------------
    a) Film
    b) Insoluble monolayer
    c) Lens formation
    d) Soluble monolayer

Q.2 Long Answers (any 2 out of 3) (10 Mark Each)   **(20)**
1. Define interfacial tension and Explain Surface free energy and spreading coefficient with equations.
2. Define States of Matter. Explain liquid crystal state and polymorphism.
3. What is distribution law? Give the detail explanation of distribution law and deviation from distribution law with its applications and limitations.

Q.3 Short Answers (any 7 out of 9) (5 Mark Each)   **(35)**
1. Write a short note on Protein binding.
2. Define Interfacial tension. Describe Ring detachment method in detail.
3. Define Solubility and describe the factors influencing the solubility.
4. Define adhesive and cohesive forces. Explain binding intermolecular forces.
5. Explain Raoult's law and discuss Ideal and non Ideal solution in detail.
6. What is HLB and RHLB?
7. Enlist methods of adjusting tonicity and pH. Explain cryoscopic method in detail.
8. Define Complexation. Enlist methods of Complexation.
9. Define Buffers. Explain Henderson-Hasselbach equation for buffers.