B. PHARM.
THIRD SEMESTER
PHYSICAL PHARMACEUTICS-I
BP302T
[USE OMR SHEET FOR OBJECTIVE PART]

SET C

Duration : 3 hrs.   Full Marks : 75

(PART-A : Objective)

Time : 30 min.   Marks : 20

Choose the correct answer from the following: 1×20=20

1. The solution having an osmotic pressure greater than that of 0.6% w/v sodium chloride is called
   a. Hypertonic solution
   b. Hypotonic solution
   c. Isosmotic solution
   d. Isotonic solution

2. The term pH was first used by
   a. Louis Pasteur
   b. Alfard Columb
   c. Soren peter Lauritz
   d. James Kelvin

3. The value of association constant, Ka and the number of binding sites N can be obtained by
   a. Direct plot
   b. Scatchard plot
   c. Klotz plot
   d. All of the above

4. Solubility of gases increases with decrease in
   a. Mass
   b. Volume
   c. Temperature
   d. Pressure

5. EDTA is
   a. Ethylene diamine tetra acetic acid
   b. Ethylene diamine tri acetic acid
   c. Ethylene dicarboxylique tri acetic acid
   d. Ethyl dibutyl tri acetic acid

6. The position of liquid molecules are
   a. Fixed
   b. Not fixed
   c. Not sliding
   d. None of above

7. Which of the following is not classification of organic molecular complexes
   a. Quinhydrone
   b. Caffeine complex
   c. Acetic acid type
   d. Polymeric complex

8. Drop weight and drop count are the methods used to measure
   a. Surface tension
   b. Particle size
   c. Surface area
   d. Density

9. What is the direct change of a substance from a solid to a gaseous state is called?
   a. Sublimation
   b. Evaporation
   c. Condensation
   d. Deposition

10. Which one of the following is the correct order of the drug binding to various plasma protein?
   a. Albumin>alpha-1 acid glycoprotein>globulins>lipoproteins
   b. Albumin> globulins>lipoproteins>alpha-1 acid glycoprotein
   c. Albumin>alpha- 1 acid glycoprotein>lipoproteins>globulins
   d. Albumin>lipoproteins>globulins>al pha-1 acid glycoprotein

11. Cryoscopic method for adjusting tonicity and pH coms under
   a. Class I method
   b. Class II method
   c. Class III method
   d. Class IV method

12. The value 14 on pH scale indicates
   a. Strongly alkaline
   b. Strongly acidic
   c. Neutral
   d. None of the above

13. Solute solvent interactions involve
   a. Van der Waals forces
   b. Ion dipole and ion-induced dipole
   c. Hydrogen bonds
   d. All of the above

14. HLB value of Detergent is
   a. 9 to 12
   b. 13 to 16
   c. 6 to 9
   d. 14 to 16

15. HLB scale was introduced by
   a. Griffin
   b. Brunauer
   c. Emmett
   d. Teller

16. pH of the solution depends on
   a. Henderson-Haselbalch equation
   b. Henry's law
   c. Charle's law
   d. Dalton's law

17. Solution which can hold no more of a solute is called
   a. Dilute solution
   b. Saturated solution
   c. Aqueous solution
   d. Concentrated solution

18. The solution which obeys the Raoult's law is known
   a. Ideal solution
   b. Real solution
   c. Binary solution
   d. Supersaturated solution

19. Which of the following is not a property of gases?
   a. They have definite volume
   b. They have no definite shape
   c. They can diffuse
   d. They have a definite mass

20. According to USP, sparingly soluble means the parts of solvent required for one part of solute is
   a. 30-100
   b. 10-30
   c. 100-1000
   d. Less than 1

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(PART-B : Descriptive)

Time : 2 hrs. 30 min.   Marks : 35

[Answer any seven (7) questions]

1. Explain various application of buffer in pharmacy   5

2. Discuss in detail changes in states of matter with examples   5

3. Difference between ideal and non- ideal solution with proper graph   5

4. Explain any three methods of analysis of complexation   5

5. Describe in detail capillary rise method to determine surface tension   5
   of liquid

6. Explain the factors affecting the solubility of drugs   5

7. Define Azeotropes? Explain different types of solubility expression   1+4=5

8. What is sublimation critical point? Explain the principle of aerosol   1+4=5
   with proper diagram

9. What is solubility? Write the mechanism of solute- solvent   1+4=5
   interaction

(PART-C : Long type questions)

[Answer any two (2) questions]

1. Define complexation? What is protein drug binding? Write the   1+1+8
   kinetics of Protein drug binding.   =10

2. What is acidic and basic buffer solution? Explain the methods   2+8=10
   used for measurement   of pH

3. Explain in detail about Diffusion principles in biological system.   10

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