2024/11

SET A

B. PHARM.
THIRD SEMESTER
PHYSICAL PHARMACEUTICS-I
BP302T [REPEAT]

[USE OMR FOR OBJECTIVE PART]

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. Solubility depends upon
   a. temperature
   b. solute
   c. solvent
   d. All of above

2. Fick's law is used for study of
   a. Dissolution rate
   b. Disintegration rate
   c. Dissociation rate
   d. Diffusion rate

3. In which states of matter are particles packed tightly in fixed positions ?
   a. gas
   b. solid
   c. liquid
   d. compound

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

5. The difference between the work of adhesion & work of cohesion is defined as....
   a. Surface tension
   b. Spreading coefficient
   c. solubility
   d. complexation

6. The solution having an osmotic pressure greater than that of 0.9% W/V Nacl is called ?
   a. Hypotonic solution
   b. Hypertonic solution
   c. Iso-osmotic solution
   d. Isotonic solution

7. Buffers are mixtures of
   a. Strong acid and strong base
   b. Strong acid and weak base
   c. Weak acid and their conjugate base
   d. weak base and their conjugate acid

8. Work of cohesion (Wc) is given by following equation
   a. $W_a = \gamma_{SV} + \gamma_{LV} - \gamma_{SL}$
   b. $S = \gamma_L + \gamma_S - \gamma_{LS}$
   c. $Wa - Wc = \gamma_L + \gamma_S - \gamma_{LS} - 2\gamma_L$
   d. $W_c = 2\gamma_{LV}$

9. The ability of a substance to rotate the plane of polarization of a beam of light that is passed through it is known as.....
   a. Optical rotation
   b. symmetry
   c. polarity
   d. None of these

10. The attractive forces between unlike substance is referred as.....
    a. Cohesive force
    b. Adhesive force
    c. Gravitational force
    d. Internal force

11. ---------- crystallize in the form of lattice in which co-ordinating compounds are entrapped are called as
    a. clathrates
    b. monomolecular complexes
    c. Polymer complexes
    d. None of the above

12. Which of the following is correct ?
    a. $P^{H} - P^{OH} = 14$
    b. $P^{H} + P^{OH} = 14$
    c. $P^{H} + P^{OH} = 14$
    d. $P^{H} - P^{OH} = 14$

13. Olefin complexes are the type of .....
    a. Metal complexes
    b. Organic molecular complexes
    c. Inclusion complexes
    d. Mono molecular complexes

14. The binding of protein to drugs can influence.....
    a. Facilitate the distribution of drug throughout the body
    b. Retard the excretion of drug
    c. Inactivate the drug
    d. Decreases the biological half-life of drug

15. ..... is the process of extracting the API from the solid dosage form into solution.
    a. condensation
    b. melting
    c. integration
    d. dissolution

16. The concept of PH was introduced by ?
    a. Lewis
    b. Sorensen
    c. Arrhenius
    d. Bronsted

17. There are ..... changes of phase that matters go through.
    a. three
    b. two
    c. four
    d. six

18. HLB is an abbreviation of.....
    a. Health- based level
    b. Hydrophilic lipophilic balance
    c. Hexagonal bi- layer
    d. None of these

19. PH of lacrimal fluid ?
    a. Ranges from 9-10
    b. Ranges from 7-8
    c. Ranges from 6-7
    d. Ranges from 8-9

20. The process of light bending around an obstacle or spreading out after it moves through a small space is known as
    a. Refraction
    b. Diffraction
    c. Reflection
    d. None of these

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PART-B: Descriptive

Time : 2 hrs. 30 min. Marks : 35

[Answer any seven (7) questions]

1.	Define distribution law? Mention its application in the field of Pharmacy	1+4=5
2.	Explain the various factors affecting solubility of drugs	5
3.	Write a detail note on buffer equation	5
4.	Describe buffered isotonic solution and elaborate the methods to determine isotonicity of solution	2.5+2.5 =5
5.	Define complex? Explain metal ion complexes and inclusion complexes with example	1+4=5
6.	Explain in details the Mechanism of solute- solvent interaction .	5
7.	What are the various state of matter and how can the various states of matter be changed .	5
8.	Define solubility ? describe solubility expressions .	1+4=5
9.	Write method of analysis of complexation .	5

PART-C : Long type questions

[Answer any two (2) questions]

1. Define Surface tension? Explain the different methods to $p^{H} - p^{oH} = 14$ 1+9=10

2. Explain in details about buffer in pharmaceutical and biological system. 10

3. Explain principle in biological diffusion in details. 10

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