

**B. PHARM.
THIRD SEMESTER
PHYSICAL PHARMACEUTICS-I
BP302T**

**SET
A**

[USE OMR FOR OBJECTIVE PART]

Duration : 3 hrs.

Full Marks : 75

Time : 30 min.

Marks : 20

Choose the correct answer from the following:

1×20=20

PART-A: Objective

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 (W_c) is given by following equation
 - a. $W_a = \gamma_{SV} + \gamma_{LV} - \gamma_{SL}$
 - b. $S = \gamma_L + \gamma_S - \gamma_{LS}$
 - c. $W_a - W_c = \gamma_L + \gamma_S - \gamma_{LS} - 2\gamma_L$
 - 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. $\text{pH} - \text{pOH} = 14$
 - b. $\text{pH} + \text{pOH} = 14$
 - c. $\text{pH} + \text{pOH} = 14$
 - d. $\text{pH} - \text{pOH} = 14$
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

PART-B: Descriptive

Time : 2 hrs. 30 min.

Marks : 35

[Answer any seven (7) questions]

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|---|---------------|
| 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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