

| | | | | | | | | | |
|---------|--|--|--|--|--|--|--|--|--|
| Reg.No. | | | | | | | | | |
|---------|--|--|--|--|--|--|--|--|--|

Manipal College of Pharmaceutical Sciences

MAHE, Manipal

BPharm Semester PCE-BP302T

End semester Examination, January 2023

Date: 19-01-2023

Max. Marks: 75

I Multiple Choice Questions (MCQs) 20 Q × 1 mark = 20 marks

Duration: 30 Min

Q1. Partition coefficient law is also called as..... (1)

1. Nernst distribution law
2. Tate's law
3. Griffin's distribution law
4. Raoult's law

Q2. Solubility of weakly acidic drugs with decrease in pH of the solution. (1)

1. increases
2. decreases
3. Remains constant
4. Initially decreases, then increases

Q3. Example for an ideal solution is ----- (1)

1. Benzene-toluene mixture
2. Benzene-ethanol mixture
3. Benzene-water mixture
4. Water- ethanol mixture

Q4. CST represents for----- (1)

1. Consolute temperature
2. critical solution temperature
3. Critical solubility temperature
4. Critical saturation temperature

| | | | | | | | | | |
|---------|--|--|--|--|--|--|--|--|--|
| Reg.No. | | | | | | | | | |
|---------|--|--|--|--|--|--|--|--|--|

Q5. Normality is expressed as..... (1)

1. Gram molecular weight in 1000 gm of solvent
2. Number of moles per 1000 ml of solution
3. Gram molecular weight in 1000 ml of the solution
4. Gram equivalent weight in one liter of the solution

Q6. The benzoic acid in benzene/water mixture exists as in benzene layer under equilibrium condition (1)

1. Dissociated form
2. Dimer
3. Monomer
4. Trimer

Q7. Glycerol has higher surface tension than ethylene glycol; because of----- (1)

1. Higher cohesive force
2. Higher viscosity
3. Higher density
4. Higher adhesive forces between glycerol and ethylene glycol

Q8. Micelles do not have any impact on surface tension due to their..... (1)

1. Spherical structure
2. place of occurrence
3. Hydrophobic core
4. Hydrophilic surface

Q9. One of the assumptions of Langmuir adsorption isotherm is ----- (1)

1. Multilayer adsorption
2. Monolayer adsorption
3. Rate of adsorption is proportional to active sites occupied
4. Rate of desorption is proportional to active sites unoccupied

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

Q10. pH indicators are -----(1)

1. Weakly acidic in nature
2. Weakly basic in nature
3. Neutral in nature
4. Weakly acidic or basic in nature

Q11. ----- is used in the determination of concentration by titrimetric method. (1)

1. indicator
2. electrode
3. universal indicator
4. buffer

Q12. Sorenson's pH scale ranges from ----- (1)

1. 1 to 14
2. 0 to 14
3. 1 to 7
4. 7 to 14

Q13. What is the effect of increase in temperature on vapor pressure of a liquid? (1)

1. Vapor pressure decreases
2. Vapor pressure Increases
3. Does not change
4. First increases and then decreases

Q14. Quantity of heat absorbed when a solid changes to liquid without the change in temperature of material is known as: (1)

1. Latent heat of fusion
2. Latent heat of vaporization
3. Latent heat of sublimation
4. Latent heat of condensation

| | | | | | | | | | |
|---------|--|--|--|--|--|--|--|--|--|
| Reg.No. | | | | | | | | | |
|---------|--|--|--|--|--|--|--|--|--|

Q15. In a chelate complex, ligand acts as _____ . (1)

1. Electron pair acceptor
2. Electron pair donor
3. Lewis acid
4. All of the above

Q16. Polymer complex is an example of _____ . (1)

1. Monomolecular inclusion complex
2. Chelate
3. Organic molecular complex
4. Clathrate

Q17. Blood cells shrink due to the administration of _____ solution. (1)

1. Hypotonic
2. Isotonic
3. Hypertonic
4. All of the above

Q18. Ratio of increment of strong acid or base to the _____ gives buffer capacity (1)

1. Change in pH
2. Change in buffer index
3. Change in viscosity
4. Change in osmotic pressure

Q19. 1%w/v concentration dextrose solution is _____ with blood. (1)

1. hypertonic
2. hypotonic
3. isotonic
4. none of the above

Q20. Blood plasma contains mainly _____ buffer system. (1)

1. Boric acid
2. Carbonic acid
3. Acetic acid
4. Citric acid

| | | | | | | | | | | |
|---------|--|--|--|--|--|--|--|--|--|--|
| Reg.No. | | | | | | | | | | |
|---------|--|--|--|--|--|--|--|--|--|--|

Manipal College of Pharmaceutical Sciences
MAHE, Manipal

BPharm Semester PCE-BP302T
End semester Make-up Examination, January 2023

Date: 19-01-2023

Duration: 3 hr

Max. Marks: 75

I Multiple Choice Questions (MCQs)

20 Q × 1 mark = 20 marks

II Long Answers

2 Q × 10 marks = 20 marks

- 1 Define Nernst distribution law and discuss four limitations and four applications of the same. (2+4+4) 10 marks
- 2 Write about the concepts and pharmaceutical applications of refractive index and dipole moment. (5+5) 10 marks

III Short Answers

7 Q × 5 marks = 35 marks

- 1 Explain micellar solubilization. 5 marks
- 2 Discuss Freundlich adsorption isotherm. 5 marks
- 3 Write short notes on the concept and significance of polymorphism. 5 marks
- 4 Discuss the kinetics of protein binding using direct plot. 5 marks
- 5 Write about the pharmaceutical applications of monomolecular inclusion complexes. 5 marks
- 6 Mention the advantages of pH determination by electrometric method. 5 marks
- 7 Discuss the concepts of isotonicity, hypotonicity and hypertonicity. 5 marks