THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

(LO 2033) MARCH 2019 **Sub. Code: 2033**

B.PHARM. DEGREE EXAMINATION
PCI Regulation – SEMESTER III
PAPER II – PHYSICAL PHARMACEUTICS – I

Q.P. Code: 562033

Time: Three hours **Maximum: 75 Marks**

I. Elaborate on: Answer any TWO questions. **(2 x 10 = 20)**

1. Explain briefly on distribution law and its limitations.
2. Explain the term surface tension & interfacial phenomena. Write the different methods used to measure surface tensions. Explain any two methods elaborately.
3. Explain various methods to analysis complexes.

II. Write notes on: Answer any SEVEN questions. **(7 x 5 = 35)**

1. Diffusion principles in biological systems.
2. Principle behind the working of aerosols.
3. Difference between amorphous & crystalline solids.
4. How the solubility of partially miscible liquids occurs and explains with one example?
5. Different types of adsorption isotherms.
6. How micellar system solubilize the poorly soluble drugs?
7. Significance of protein binding.
8. Various methods to determine pH.
9. Methods to adjust isotonicity.

III. Short answers on: Answer ALL questions. **(10 x 2 = 20)**

1. Define spreading co-efficient.
2. Henry's law-define with equation.
3. HLB scale.
4. What do you mean by binary solution and give example?
5. Examples of pharmaceutical buffers.
6. What is the nature of solvent and cosolvent and give examples?
7. pH equation for acid and alkali.
8. Examples for biological buffers.
9. Write the different between hypotonic and hypertonic solution.
10. Write the equation for Fick's law of diffusion.

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THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

(LP 2033) SEPTEMBER 2019 **Sub. Code: 2033**

B.PHARM. DEGREE EXAMINATION
PCI Regulation – SEMESTER III
PAPER II – PHYSICAL PHARMACEUTICS – I

Q.P. Code: 562033

Time: Three hours **Maximum: 75 Marks**

I. Elaborate on: Answer any TWO questions. **(2 x 10 = 20)**

1. Define complexes. Classify the complexes with suitable examples. Write about the inclusion complexes.
2. Explain the Freundlich and Langmuir adsorption isotherm.
3. Define surfactants. Explain classification of surfactants with suitable examples.

II. Write notes on: Answer any SEVEN questions. **(7 x 5 = 35)**

1. Significance of protein binding.
2. Describe with examples of polar, non polar and semi polar solvents.
3. Crystalline structure of complexes.
4. Wilhelmy plate method.
5. Liquid crystalline state and Supercritical fluids.
6. Dielectric constant and Dipole movement.
7. Application of buffers in pharmaceutical and biological system.
8. Vapour pressure and Liquid crystals.
9. Application of surface active agent.

III. Short answers on: Answer ALL questions. **(10 x 2 = 20)**

1. Buffer equation.
2. Surface free energy.
3. Ideal solution.
4. Common ion effect.
5. Olefin complexes.
6. Latent Heat.
7. Sublimation.
8. Critical solution temperature.
9. Distribution law.
10. Mechanism action of detergent.

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THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[LR 0121] JANUARY 2021 Sub. Code: 2033

(MARCH 2020 EXAM SESSION)

B. PHARMACY DEGREE EXAMINATION

PCI REGULATION – SEMESTER III

PAPER II – PHYSICAL PHARMACEUTICS I

Q.P. Code: 562033

Time: Three hours **Maximum: 75 Marks**

I. Elaborate on: Answer any TWO questions. (2 x 10 = 20)

1. Enumerate the methods for analysis of complexes and explain in detail about solubility method.
2. Explain the phase rule for one and two component systems.
3. Define solubility. Describe solubility expression. Write the factors influencing solubility of drugs.

II. Write notes on: Answer any SEVEN questions. (7 x 5 = 35)

1. Explain Du - nouy ring method.
2. Eutectic mixtures.
3. Wetting phenomena and its applications.
4. Solvation and Association.
5. Write note on Protein binding of drugs.
6. Job's method of Complexation.
7. Sorensen's pH scale.
8. Mechanisms of solute solvent interactions.
9. Describe methods to adjust Tonicity.

III. Short answers on: Answer ALL questions. (10 x 2 = 20)

1. Raoult's law.
2. Buffer capacity.
3. Vaporization.
4. Isotonic solution.
5. Ferrocene.
6. Spreading co-efficient.
7. Critical micelle concentration.
8. Liquid complex.
9. Real solution.
10. Henry's Law.

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THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[BPHARM 0921] SEPTEMBER 2021 Sub. Code: 2033
(SEPTEMBER 2020 EXAM SESSION)

B.PHARM. DEGREE EXAMINATION
PCI Regulation 2017 – SEMESTER III
PAPER II - PHYSICAL PHARMACEUTICS I
Q.P. Code: 562033

Time: Three hours **Maximum: 75 Marks**

I. Elaborate on: Answer any TWO questions. (2 x 10 = 20)

1. Classify Complexes. Explain organic molecular complexes and inclusion Complexes.
2. What are the various methods of determination of surface tension of Liquids? Explain any two methods.
3. Explain briefly Freundlich and Langmuir adsorption Isotherms.

II. Write notes on: Answer any SEVEN questions. (7 x 5 = 35)

1. Solubility expressions.
2. Discuss Crystalline state of matter.
3. Critical solution temperature of Phenol-water system.
4. Describe application of Buffers.
5. The pH titration method for studying Complexation.
6. HLB scale and its significance.
7. Eutectic Mixtures.
8. Aerosols.
9. Surface active agents and their pharmaceutical applications.

III. Short answers on: Answer ALL questions. (10 x 2 = 20)

1. Define surface tension.
2. Distinguish between adsorption and absorption.
3. Define Optical rotation.
4. Define Dielectric constant.
5. What are Isotonic solutions?
6. Define Critical Micelle Concentration.
7. Sorensen's pH scale.
8. Define Refractive index.
9. Polymorphism.
10. Define relative humidity.

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