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Rajiv Gandhi University of Health Sciences, Karnataka  
Third Semester B. Pharm Degree Examination – 11-Nov-2024

Time: Three Hours  
75

Max. Marks:

**Physical Pharmaceutics - I**

**Q.P. CODE: 5010**

Your answers should be specific to the questions asked  
Draw neat labeled diagrams wherever necessary  
All the questions are compulsory

**LONG ESSAYS**

**2 x 10 = 20 Marks**

1. Define Interfacial tension. Discuss the principle and method of determination of interfacial tension by DuNouy ring method  
**OR**  
List out Physical properties of drug molecules and discuss optical activity and dipole moment with their applications in Pharmacy
2. Explain Griffin HLB scale and discuss various methods of determination of HLB number

**SHORT ESSAYS**

**7 x 5 = 35 Marks**

3. Define Solubility. Explain how solubility can be expressed quantitatively  
**OR**  
Discuss the various physical phenomena that occurs during the change in the state of matter
4. Define Solubility. Explain factors affecting solubility of solids in liquids with example  
**OR**  
Define Adsorption isotherm and explain Freundlich adsorption with suitable example
5. Explain drop count method of determination of surface tension
6. Discuss the dynamic dialysis method of determining the concentration of bound drug in a protein solution
7. Classify and explain inclusion complexes with examples
8. Define pH and derive buffer equation for weak acid and its salt with an example
9. Describe the electrometric method of determination of pH

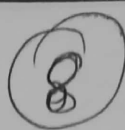
**SHORT ANSWERS**

**10 x 2 = 20 Marks**

10. Give Nernst equation for molecular association and dissociation
11. Define CST
12. Define optical rotation?
13. What are micelles? Give its applications
14. Differentiate complex compound and molecular compound
15. Write the applications of chelates
16. List out the methods of analysis of complexation
17. What are the effects of injecting hypertonic solutions?
18. Write the applications of buffers in pharmacy
19. Add a note on surface active agents

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Rajiv Gandhi University of Health Sciences, Karnataka  
Third Semester B. Pharm Degree Examination – 30-May-2024

Time: Three Hours

Max. Marks: 75 Marks

**PHYSICAL PHARMACEUTICS - I**

**Q.P. CODE: 5010**

Your answers should be specific to the questions asked  
Draw neat labeled diagrams wherever necessary  
All the questions are compulsory

**LONG ESSAYS**

**2 x 10 = 20 Marks**

1. Explain in detail different factors affecting the solubility of drugs.  
**OR**  
Discuss dielectric constant and dipole moment with their applications in Pharmacy.
2. Define Adsorption isotherms. Explain the behaviour of various types of Adsorption isotherms.

**SHORT ESSAYS**

**7 x 5 = 35 Marks**

3. Explain organic molecular complexes with example.  
**OR**  
Define contact angle. Write its applications in pharmacy.
4. Explain the process of fractional distillation for the separation of azeotropic mixtures.  
**OR**  
Define pH. Deduce buffer equation for weak acid and its salt.
5. Define Critical solution temperature and mention their applications.
6. Write a note on amphiphiles.
7. Write the applications of buffers in pharmaceutical and biological system.
8. Write a note on eutectic mixtures.
9. Explain inclusion complex.

**SHORT ANSWERS**

**10 x 2 = 20 Marks**

10. What are Picric acid complex? Give example.
11. Types of pH determination methods
12. Enumerate different methods of analysis of complex.
13. What you mean by polarization?
14. Isotonic and paratonic solutions
15. Define sublimation.
16. Define Zeta-potential.
17. Give Henderson-Hasselbalch equation
18. Define distribution law.
19. Two applications of complexation.

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