Rajiv Gandhi University of Health Sciences, Karnataka

Third Semester B. Pharm Degree Examination – 11-Nov-2024

Time: Three Hours **Max. Marks: 75**

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 Refractive index? Explain working of Abbe's Refractometer**

   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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