

# Rajiv Gandhi University of Health Sciences, Karnataka

## Third Semester B. Pharm Degree Examination – 12-Nov-2021

**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. Define solubility. Explain the various factors affecting solubility of solids in liquids  
**OR**  
Describe the principle, construction and working of Abbe's refractometer. Write a note on its applications
2. Define adsorption isotherm. Explain Freundlich and Langmuir adsorption isotherms

#### **SHORT ESSAYS**

**7 x 5 = 35 Marks**

3. Define the term conjugated solution. Explain phenol water system  
**OR**  
Define dielectric constant. Write a note on its applications
4. Write the principle and working of Dunouy's tensiometer  
**OR**  
Explain organic molecular complexes with examples
5. What are Buffers? Derive an equation for weak acid and its salts
6. Explain the different methods to determine HLB of a surfactant
7. Enumerate different methods of analysis of complexes. Explain solubility method of analysis
8. What is pH? Explain Sorenson's pH scale
9. State and explain Nernst distribution law along with its limitations

#### **SHORT ANSWERS**

**10 x 2 = 20 Marks**

10. Define diffusion and dissolution
11. Two applications of buffers
12. Define spreading coefficient
13. Two applications of inclusion complexes
14. Write any four examples of pharmaceutical buffers
15. What are clathrates?
16. Define vapour pressure
17. Define polymorphism with examples
18. What are Quinhydrone complex? Give example
19. Define isotonic and paratonic solution

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