Rajiv Gandhi University of Health Sciences, Karnataka

Third Semester B. Pharm Degree Examination – 04-Nov-2023

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. What are ideal solutions? State Raoult's law. Describe the deviations from the law with suitable example.

   OR

   List out physical properties of drug molecules. Describe any two of them with suitable examples.

2. Define surface active agents. Discuss the methods to calculate HLB, along with its applications.

SHORT ESSAYS **7 x 5 = 35 Marks**

3. Discuss the solubility of gases in liquids.

   OR

   What is dipole moment? How do you measure it?

4. Explain in detail spreading coefficient with relevant equation.

   OR

   Write a note on monomolecular inclusion complexes and their applications.

5. Define buffer. Explain the mechanism of action of buffers.
6. Explain the different types of diffusion cells.
7. Explain the relation between contact angle and Wettability.
8. What is the influence of protein binding on drug action? Explain with examples.
9. Explain the applications of buffers in pharmaceutical and biological systems.

SHORT ANSWERS **10 x 2 = 20 Marks**

10. Define saturated and supersaturated solutions.
11. Define relative humidity.
12. What are olefin complexes?
13. Give BET equation.
14. Name the different methods used for the analysis of complexes.
15. Define pH and pOH.
16. **Define Zeta potential and Nernst potential.**
17. Give Henderson – Hasselbalch equation.
18. Name any two methods to determine pH.
19. **What are Biological Buffers? Give example**

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