

**QP Code: 322006**

**Reg. No.....**

**Third Semester B. Pharm Degree Supplementary Examinations  
September 2025**

**Physical Pharmaceutics I  
(2017 Scheme)**

**Time: 3 Hours**

**Max. Marks: 75**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers.*
- *Draw diagrams wherever necessary*

**Essays**

**(2x10=20)**

1. Define Nernst distribution law and derive the equation for the same.
2. Write the principle and method involved in the determination of particle size in a powder using Andreasen apparatus.

**Short Notes**

**(7x5=35)**

3. Explain Raoult's law.
4. Define Angle of repose and explain briefly the method to determine the same.
5. Discuss liquid crystalline state and describe its properties.
6. Define dielectric constant and mention its applications in pharmacy.
7. Describe one experimental method for studying drug-protein binding.
8. Describe the buffer action of an acid and alkaline buffers with suitable examples.
9. Mention the advantages and disadvantages of calorimetric estimation of pH.

**Answer Briefly**

**(10x2=20)**

10. What are aerosols inhalers.
11. Define polymorphism.
12. Describe the effect of drug-protein binding on drug-distribution of drug.
13. Define porosity.
14. Explain different classes of complexes.
15. What is dipole moment.
16. Define critical solution temperature with an example.
17. What are real solutions.
18. Define buffer and buffer capacity.
19. Write the importance of isotonicity in pharmaceutical formulations.

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