

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B.Pharm. - SEMESTER-III • EXAMINATION – SUMMER -2021**

**Subject Code: BP302TP****Date: 27/08/2021****Subject Name: Physical Pharmaceutics -I****Time: 02:30PM to 05:30PM****Total Marks: 80****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q. 1** (a) Explain the Temperature-Composition Diagram of Phenol- Water system. **06**  
(b) Define Polymorphism. Describe its application in Pharmacy. **05**  
(c) Define Refractive Index. How is it determined? Give its application. **05**
- Q. 2** (a) State and Explain Raoult's Law. Discuss deviations from Raoult's Law. **06**  
(b) Explain the component of an Aerosol. Discuss the application of Aerosols. **05**  
(c) Write a note on Optical rotation. **05**
- Q. 3** (a) Define Surface tension. Discuss the capillary rise method for Surface tension. **06**  
(b) Write a short note on Surface active agent. **05**  
(c) Discuss about Spreading Co efficient. **05**
- Q. 4** (a) Explain Nernst Distribution Law in detail. Explain its application. **06**  
(b) Write a note on Liquid Crystal. **05**  
(c) Describe Sorensen's pH Scale. **05**
- Q. 5** (a) Enumerate method of Analysis of Complex. Explain any one in detail. **06**  
(b) Write a note on Inclusion complex. **05**  
(c) Give Classification of Complex. Explain application of complex. **05**
- Q. 6** (a) Discuss the Application of Drug- Protein Binding in Drug activity. **06**  
(b) Describe method for estimating the Buffer capacity of solution. **05**  
(c) Define pH. Explain any one method for determination of pH. **05**
- Q. 7** (a) Write a note on Langmuir Adsorption and give its derivation. **06**  
(b) Describe the method of calculation of HLB by different techniques. **05**  
(c) Define Adsorption. Differentiate between Physical and Chemical adsorption. **05**

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