

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B.PHARM - SEMESTER- 4 EXAMINATION – WINTER -2019**

**Subject Code: BP403TP****Date: 18-12-2019****Subject Name: Physical Pharmaceutics II****Time: 02:30 PM TO 05:30 PM****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) Define Viscosity & explain its application. Discuss Ostwald's Viscometer **06**  
(b) Write a short note on optical properties of colloids. **05**  
(c) Define : i) lyophilic colloids, **05**  
ii) micelles,  
iii) Brownian movement,  
iv) Faraday-Tyndall effect  
v) Nernst potential
- Q.2** (a) Define : i) Kinematic viscosity **06**  
ii) Thixotropy  
iii) Plug flow Rheology  
iv) Yield value  
(b) Classify cup and bob viscometer and give examples for each type with principle **05**  
involved  
(c) Draw Rheogram for Newtonian and non-newtonian flow **05**
- Q.3** (a) Define suspension. Explain sedimentation volume and degree of flocculation **06**  
(b) Write a note on factor affecting stability of suspension **05**  
(c) Write a note on suspending agent. **05**
- Q.4** (a) Give a brief account on theories of emulsification. **06**  
(b) Differentiate between lyophilic and lyophobic colloids. **05**  
(c) Write a note on physical stability of emulsion. **05**
- Q.5** (a) Derive equation of rate of reaction and half life for first order kinetics **06**  
(b) Discuss different methods to determine order of a reaction. **05**  
(c) Write a short note on second order reaction. **05**
- Q.6** (a) Enlist the methods for particle size determination. Explain conductivity method. **06**  
(b) Discuss the derived properties of powder. **05**  
(c) Discuss factors affecting powder flow. **05**
- Q.7** (a) Write note on Acid-base Enzyme Catalysis. **06**  
(b) Enumerate Physical and chemical factors influencing the chemical degradation **05**  
of pharmaceutical product and explain any one.  
(c) Explain method for stabilization of medicinal agents from photolytic degradation **05**

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