

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

**Subject Code: BP403TP****Date: 13-05-2019****Subject Name: Physical Pharmaceutics II****Time: 10:30 AM TO 01:30 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) Discuss pharmaceutical application of colloids. Differentiate various types of colloidal dispersion system. **06**
- (b) Explain: Kraft point and gold number. **05**
- (c) Explain kinetic properties of colloids. **05**
- Q.2** (a) Discuss the concept of DLVO theory along with the energy curve and explain how this theory is applied in stabilizing the colloidal dispersion. **06**
- (b) What is the effect of plug flow in measurement of viscosity of a plastic system, in cup and bob viscometer? How plug flow can be minimised? **05**
- (c) Write a note on thixotropy. **05**
- Q.3** (a) Discuss non-Newtonian flow with rheogram, mechanism and explain with suitable example. **06**
- (b) Describe a suitable viscometer with diagram which can measure the viscosity of dispersion of sodium alginate in water. **05**
- (c) Define suspension. Differentiate between flocculated and deflocculated suspension. **05**
- Q.4** (a) Discuss different approaches used to achieve flocculation in suspensions. **06**
- (b) Explain sedimentation parameter of suspension in detail. **05**
- (c) Enlist the physical instability markers of emulsion and discuss any two. **05**
- Q.5** (a) Enlist the different type of densities of powder. Write the experimental method for the determination of true density. **06**
- (b) Explain method for determining particle surface area. **05**
- (c) Give factors affecting powder flow. **05**
- Q. 6** (a) Enlist methods of particle size estimation. Explain conductivity method in detail. **06**
- (b) Discuss angle of repose and Carr's Index with their pharmacopoeial specification. **05**
- (c) Write a short not on accelerated stability study. **05**
- Q.7** (a) Describe the various methods of determination of reaction order. **06**
- (b) Explain factors which govern the rate of chemical reaction. **05**
- (c) Discuss the various means of stabilization of product which is sensitive to oxidation. **05**