

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.

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| 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 |