

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.

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| 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,
ii) micelles,
iii) Brownian movement,
iv) Faraday-Tyndall effect
v) Nernst potential | 05 |
| Q.2 | (a) Define : i) Kinematic viscosity
ii) Thixotropy
iii) Plug flow Rheology
iv) Yield value | 06 |
| | (b) Classify cup and bob viscometer and give examples for each type with principle involved | 05 |
| | (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 of pharmaceutical product and explain any one. | 05 |
| | (c) Explain method for stabilization of medicinal agents from photolytic degradation | 05 |
