

Seat No.: _____

Enrollment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B Pharm. SEMESTER-IV EXAMINATION –WINTER -2020

Subject Code: BP403TP

Date: 11/02/2021

Subject Name: Physical Pharmaceutics-II

Time: 02:30PM TO 04:30PM

Total Marks: 54

Instructions:

1. Attempt any THREE questions from Q-1 to Q-6.
2. Q.7 is compulsory to attempt.
3. Make suitable assumptions wherever necessary.
4. Figures to the right indicate full marks.

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|-------------|-----|--|-----------|
| Q.1 | (a) | Differentiate Lyophilic colloids and Lyophobic colloids. Discuss association colloids. | 06 |
| | (b) | Explain the concept of DLVO theory along with energy curve and how this theory is applied in stabilizing the colloidal dispersion. | 05 |
| | (c) | Enlist different properties of colloids. Explain kinetic properties. | 05 |
| Q.2 | (a) | Enumerate different methods commonly used for measurement of particle size determination. Describe optical microscopy method. | 06 |
| | (b) | Classify the methods used for determination of surface area. Explain air permeability method with diagram. | 05 |
| | (c) | Define and explain: Angle of repose and Carr's Index with their pharmacopoeial specification. | 05 |
| Q.3 | (a) | Explain sedimentation parameters of suspension in detail. | 06 |
| | (b) | Enlist the physical instability markers of emulsion and explain any two. | 05 |
| | (c) | Discuss various mechanism of emulsifying agents. | 05 |
| Q.4 | (a) | Discuss accelerated stability testing in expiration dating of pharmaceutical dosage forms. | 06 |
| | (b) | Derive the equation of Half life for zero order and first order kinetics. | 05 |
| | (c) | Write about chemical factors influencing the chemical degradation of pharmaceutical product. | 05 |
| Q.5 | (a) | Explain the plastic and pseudoplastic flow curves with example. | 06 |
| | (b) | Define: Kinematic viscosity, Fluidity, Bulges, Rheopexy and Poise. | 05 |
| | (c) | Explain cup and bob viscometer with diagram. | 05 |
| Q. 6 | (a) | Discuss porosity and packing arrangement of powder with application of micromeritics. | 06 |
| | (b) | Describe different types of emulsion. | 05 |
| | (c) | Define thixotropy. Comment on thixotropy and antithixotropy. | 05 |
| Q.7 | (a) | Enlist the different type of densities of powder. Write the experimental method for the determination of any one of them. | 06 |
| | | OR | |
| | (a) | Define suspension. Write a note on factors affecting stability of suspension. | 06 |
| | | OR | |
| | (a) | Write the principle and working of Ostwald viscometer. | 06 |