

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM - SEMESTER-2 EXAMINATION – WINTER -2024

Subject Code: BP203TP**Date: 27-12-2024****Subject Name: Pharmaceutical Engineering****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) | Explain the terms: Positive Mixture, Negative Mixture and Neutral Mixture giving suitable examples. | 06 |
| | (b) | Enlist mixers for semisolids. Describe planetary motion mixer. | 05 |
| | (c) | Explain Fourier's law in heat transfer. | 05 |
| Q.2 | (a) | Discuss principle, construction, working, merits and demerits of spray dryer with labeled diagram. | 06 |
| | (b) | Explain construction, working of freeze dryer. | 05 |
| | (c) | Explain the drying rate curve and write its application. | 05 |
| Q.3 | (a) | With a neat diagram explain the falling film evaporator & climbing film evaporator. | 06 |
| | (b) | Elaborate the concept of multiple effect evaporation. | 05 |
| | (c) | Define Distillation and write a note on Raoult's law. | 05 |
| Q.4 | (a) | Define Co-efficient of discharge. Give the difference between Orificemeter and Venturimeter. | 06 |
| | (b) | Write a note on Rotameter. | 05 |
| | (c) | Enlist types of manometer. Describe Inclined manometer in detail. | 05 |
| Q.5 | (a) | Describe Principle, Construction, Working, & Uses of Meta filter with diagram. | 06 |
| | (b) | Explain theory of and mechanism of filtration. | 05 |
| | (c) | What are basket centrifuges? Describe the theory of centrifugation. | 05 |
| Q. 6 | (a) | Describe the mechanism of size reduction with suitable examples of equipment. | 06 |
| | (b) | Define and classify the powder as per IP and enlist the specification of sieves. | 05 |
| | (c) | Describe the construction, working principles of fluid energy mill. | 05 |
| Q.7 | (a) | What are the properties of glass? What are its applications as material of construction ? | 06 |
| | (b) | Discuss the various factors affecting selection of material of plant construction. | 05 |
| | (c) | What is corrosion? Write a note on Ferrous and nonferrous metals. | 05 |
