

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM – SEMESTER – 2 EXAMINATION – WINTER-2025

Subject Code: BP203TP

Date: 16-12-2025

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 heat transfer by conduction through resistance in series and parallel. | 06 |
| | (b) Discuss concept of black body. Explain Stefan Boltzmann law. | 05 |
| | (c) Define Evaporation. Discuss factors affecting evaporation. | 05 |
| Q.2 | (a) Explain climbing film evaporator with diagram | 06 |
| | (b) Define distillation and explain steam distillation with diagram | 05 |
| | (c) Enlist methods of size separation with principle. Explain multiple stage elutriator in detail | 05 |
| Q.3 | (a) Write a short note on orificemeter. | 06 |
| | (b) Explain Reynold's number with its significance. | 05 |
| | (c) Write note on Bernouli's theorem with its applications. | 05 |
| Q.4 | (a) Explain standards of sieve and powder. | 06 |
| | (b) Define drying. Give the detailed classification of dryers. Give neat, labelled diagram of Spray dryer. | 05 |
| | (c) Write a short note on Fluidized bed dryer | 05 |
| Q.5 | (a) Classify mixers. Explain planetary mixer in detail. | 06 |
| | (b) Explain mechanisms of solid-solid mixing. | 05 |
| | (c) Explain drying curve in detail | 05 |
| Q. 6 | (a) Explain perforated basket centrifuge. | 06 |
| | (b) Describe rotary drum filter with its diagram. | 05 |
| | (c) Define: Reflux ratio and HETP. Discuss fractional distillation | 05 |
| Q.7 | (a) Discuss types of corrosion with their prevention. | 06 |
| | (b) Discuss factors affecting selection of material for plant construction. | 05 |
| | (c) Write a short note on ball mill. | 05 |
