

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

**Subject Code:BP203TP****Date: 21-06-2025****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.

- Q.1** (a) Define Following Terms: **06**  
(i) Size Reduction (ii) Size Separation (iii) Mixing  
(iv) Distillation (v) Centrifugation (vi) Filtration
- (b) (i) To reduce Dry fibrous roots of plant to fine size, which principle can be used **05**  
effectively? Enlist equipment based on it and explain its principle in detail.  
(ii) Ball mill works effectively at optimum speed. Why?
- (c) Explain in detail various mechanisms involved in size reduction? **05**
- Q.2** (a) Define Evaporation. Explain factor influencing Evaporation process. **06**  
(b) Explain Distillation under reduced pressure. **05**  
(c) Discuss different heat transfer mechanisms in detail. **05**
- Q.3** (a) Explain Objectives and advantages of Mixing. **06**  
(b) Give Principle, Construction, Working and Uses of Sigma Blade Mixer. **05**  
(c) Explain Tray Dryer. **05**
- Q.4** (a) Differentiate between orifice meter and venture meter. **06**  
(b) State and explain Bernoulli's theorem with application. **05**  
(c) Explain Reynolds experiment with its significance. **05**
- Q.5** (a) Give brief note on Horizontal Tube Evaporator. **06**  
(b) Explain Perforated basket centrifuge. **05**  
(c) Define Centrifugation. Explain Its Application. **05**
- Q. 6** (a) Classify and explain material used in plant construction. **06**  
(b) Explain the Theories of Corrosion. **05**  
(c) Explain Fractional Distillation with suitable example. **05**
- Q.7** (a) Enlist explain factors affecting Mixing Process. **06**  
(b) Give Principle, Construction, Working and Uses of Fluid Energy Mill. **05**  
(c) Explain Cyclone separator in detail. **05**

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