

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

Subject Code: BP203TP**Date: 13/06/2024****Subject Name: Pharmaceutical Engineering****Time: 10.30 a.m. to 1.30 p.m.****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) What is Reynolds number? Give its significance. | 06 |
| | (b) Discuss cyclone separator for size separation. | 05 |
| | (c) Give a short note on Bernoulli's theorem and its applications. | 05 |
| Q.2 | (a) Describe the mechanisms of size reduction with suitable examples of Equipment. | 06 |
| | (b) Describe edge runner and end runner mill. | 05 |
| | (c) Give a note on official standards of powders. | 05 |
| Q.3 | (a) Discuss mechanism of mixing in solids. | 06 |
| | (b) Give a short note on Silverson Emulsifier. | 05 |
| | (c) Enlist mixers for semisolid. Describe sigma-blade mixer. | 05 |
| Q.4 | (a) Explain in brief:
1.Meta Filter
2.Filter Leaf | 06 |
| | (b) Explain the conical disc centrifuge or De Laval Clarifier. | 05 |
| | (c) Give Principle, Figure, Working, and Advantages, Disadvantages of a dryer used for Thermo labile and hygroscopic Material. | 05 |
| Q.5 | (a) Give a short note on Molecular Distillation | 06 |
| | (b) Write a note on Falling film and Climbing film evaporator. | 05 |
| | (c) Give a short note on fractional distillation. | 05 |
| Q.6 | (a) What is Solids-Material Handling System? Give its classification and explain any one in detail. | 06 |
| | (b) Enumerate the Factors Influencing Selection of Materials and Explain Physical factors in detail. | 05 |
| | (c) Explain importance of corrosion. Discuss theory of corrosion. | 05 |
| Q.7 | (a) What is thermal radiation? Explain the concept of Black body and Gray body in thermal radiation. | 06 |
| | (b) Give a brief note on Filter aids. | 05 |
| | (c) Discuss in brief overall heat transfer coefficient. | 05 |