

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM. – SEMESTER II • EXAMINATION – WINTER-2023

Subject Code: BP203TP**Date: 05/02/2024****Subject Name: Pharmaceutical engineering****Time: 2:30 PM to 5:30 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) Write a note on theory of drying.	06
	(b) Write Bernoulli's equation and explain the symbols used therein with a labeled diagram.	05
	(c) With a neat diagram explain the Fluid energy mill.	05
Q.2	(a) Describe the construction and working of silverson mixer with neat diagram.	06
	(b) Explain the advantages and disadvantages of size reduction process	05
	(c) What is Reynolds number? Give it significance.	05
Q.3	(a) Describe the equipment for solid solid mixing of pharmaceutical materials.	06
	(b) Define the filter aid. Give the example of filter aid.	05
	(c) Compare Pitot tube and Rotameter.	05
Q.4	(a) Why size separation is required? What are the methods involved in size separation? Discuss the principle and operation of Air Separator.	06
	(b) Explain the working of a heat exchanger with labeled diagram.	05
	(c) Explain the principle and working of drum dryer.	05
Q.5	(a) Enlist mixers for semisolids. Describe planetary motion mixer.	06
	(b) Classify evaporators. Describe construction and working of a film evaporator.	05
	(c) Define corrosion. Explain factors influencing corrosion.	05
Q.6	(a) Explain the principle and procedure of molecular distillation and give its applications.	06
	(b) Derive an equation for heat transmission through a circular pipe from Fourier's law.	05
	(c) Give five pharmaceutical applications of industrial centrifuge.	05
Q.7	(a) Discuss the construction, working, advantages and disadvantages of spray dryer.	06
	(b) Describe the construction and working of leaf filters.	05
	(c) Write a short note on Jet mixer.	05
