

GUJARAT TECHNOLOGICAL UNIVERSITY
B.Ph. SEMESTER-II • EXAMINATION – SUMMER -2023

Subject Code:BP203TP**Date: 09/08/2023****Subject Name: Pharmaceutical Engineering****Time: 02:30pm to 05:30pm****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) State Bernoulli's theorem by deriving suitable equations	06
	(b) Differentiate Orifice meter and Venturi meter	05
	(c) Write short notes on Reynold's number and its significance	05
Q.2	(a) Explain Ball mill with a neat labeled diagram	06
	(b) Give a brief account on theories of size reduction	05
	(c) Write short notes on fractional distillation	05
Q.3	(a) State the objectives, applications and mechanisms of size reduction	06
	(b) Explain Cyclone separator	05
	(c) Write short notes on distillation under reduced pressure	05
Q.4	(a) State Fourier's law of heat transfer and derive the equation of heat transfer for conduction through cylinder	06
	(b) Define film coefficient, black body, grey body, emissivity, Stefan Boltzmann law	05
	(c) Explain construction and working of Double Pipe heat interchanger	05
Q.5	(a) With a neat labeled diagram explain Climbing film evaporator	06
	(b) State the principle involved in Freeze dryer using Sublimation, Melting point and Boiling point curves	05
	(c) Define the term fluidized and explain the bed dryer	05
Q. 6	(a) Mention mixers for liquid mixing and explain any one with suitable diagram	06
	(b) Give short notes on factors affecting mixing	05
	(c) Brief the importance of Filter aids	05
Q.7	(a) State the types of Filter press and explain any one with suitable diagram	06
	(b) Differentiate perforated and non perforated basket centrifuge	05
	(c) Write short notes on factors affecting materials selected for plant construction	05
