Seat No.: _____ Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B.Ph. SEMESTER–II • EXAMINATION – WINTER -2019

Subject Code: BP203TP **Date: 18/12/2019**

Subject Name: Pharmaceutical Engineering

Time: 10:30AM TO 01:30PM **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)**	Define Co-efficient of discharge. Give the difference between Orificemeter and Venturimeter.	**06**
	(b)	Describe the construction, working principles of fluid energy mill.	**05**
	(c)	Define and classify the powder as per IP and enlist the specification of sieves.	**05**
Q.2	**(a)**	With a neat diagram explain the falling film evaporator & climbing film evaporator.	**06**
	(b)	Explain Fourier's law in heat transfer.	**05**
	(c)	Define distillation and discuss the application of distillation process in field of pharmacy.	**05**
Q.3	**(a)**	Explain the drying rate curve and write its application.	**06**
	(b)	Enlist mixers for semisolids. Describe planetary motion mixer.	**05**
	(c)	Explain construction, working of freeze dryer.	**05**
Q.4	**(a)**	What are basket centrifuges? Describe the theory of centrifugation.	**06**
	(b)	Explain theory of and mechanism of filtration.	**05**
	(c)	Explain principal, construction, working and advantages with labeled diagram of Metafilters.	**05**
Q.5	**(a)**	Discuss the various factors affecting selection of material of plant construction.	**06**
	(b)	What is corrosion? Mention the factors that influence rate of corrosion.	**05**
	(c)	What are the properties of glass? What are its applications as material of construction?	**05**
Q. 6	**(a)**	Define distillation and write a note on Raoult's law.	**06**
	(b)	Describe the mechanism of size reduction with suitable examples of equipment.	**05**
	(c)	Write a note on Rotameter.	**05**
Q.7	**(a)**	Explain the terms: Positive Mixture, Negative Mixture and Neutral Mixture giving suitable examples.	**06**
	(b)	Discuss principle, construction, working, merits and demerits of spray dryer with labelled diagram.	**05**
	(c)	Elaborate the concept of multiple effect evaporation.	**05**

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