Seat No.: _____ Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.Pharm. – SEMESTER II– • EXAMINATION – WINTER -2018

Subject Code:BP203TP **Date:13/12/2018**

Subject Name: Pharmaceutical Engineering

Time: 02:30 PM TO 05:30 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)**	Classify flow meters. Explain Rotameter with general design & working.	**06**
	(b)	Enlist mechanisms of side reduction. Describe fluid energy mill in detail.	**05**
	(c)	Enlist official standards of powders. Discuss the principle and operation of Cyclone Separator.	**05**
Q.2	**(a)**	What is distillation? Explain fractional distillation with detailed diagram.	**06**
	(b)	What is manometer? Explain anyone in detail.	**05**
	(c)	Define evaporation. Give principle & operation of climbing film evaporator.	**05**
Q.3	**(a)**	Explain heat transfer mechanisms in detail.	**06**
	(b)	Describe principle & methodology of steam distillation.	**05**
	(c)	What is Reynolds number? Show how it is dimensionless. What is its significance in fluid flow?	**05**
Q.4	**(a)**	Explain drying curve with its application.	**06**
	(b)	Give principle & construction of freeze dryer with its merits & demerits.	**05**
	(c)	Classify solid mixers. Explain any one in detail.	**05**
Q.5	**(a)**	Write a brief note on objectives & theories of filtration.	**06**
	(b)	Explain filter used for filtration of sterile preparations.	**05**
	(c)	Explain construction & working of supercentrifuge with diagram.	**05**
Q. 6	**(a)**	Write short note on Glass as a material for plant construction.	**06**
	(b)	Explain factors affecting selection of materials for pharmaceutical plant construction	**05**
	(c)	Write a short note on theory of corrosion with its importance.	**05**
Q.7	**(a)**	Derive the Bernoullis's equation with proper assumption.	**06**
	(b)	Differentiate Orifice meter and Venturimeter.	**05**
	(c)	Define the filter aid. Give the example of filter aid & methods of addition.	**05**

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