Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BPHARM – SEMESTER II • EXAMINATION – WINTER • 2016

Subject code: 220002 Date: 02-01-2017

Subject Name: Pharmaceutics-II

Time: 02:30 pm - 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)**	Define size reduction. Explain different mechanisms, factors affecting and applications of size reduction.	**06**
	(b)	Explain the principle, construction, working, advantages, limitations and applications of fluid energy mill with help of a neat sketch.	**05**
	(c)	Explain the principle, construction, working, advantages, limitations and applications of ball mill with help of a neat sketch.	**05**
Q.2	**(a)**	Discuss the principle, construction, working, advantages, limitations and applications of Cyclone Separator with the help of a neat sketch.	**06**
	(b)	Discuss Carr' Index, Hausner's ratio, Angle of repose with its significance.	**05**
	(c)	Explain the principle, construction, working, advantages, limitations and applications of colloid mill with help of a neat sketch.	**05**
Q.3	**(a)**	Define and explain (a) Mixing (b) Mixing Index (c) Degree of Mixing.	**06**
	(b)	Explain the principle, construction, working, advantages, limitations and applications of planetary mixer with help of a neat sketch.	**05**
	(c)	Explain the principle, construction, working, advantages, limitations and applications of sigma blade mixer with help of a neat sketch.	**05**
Q.4	**(a)**	Discuss the Mier's super saturation theory. What are its limitations?	**06**
	(b)	Explain principle, construction, working, advantages and limitations of Swenson Walker crystallizer with the help of a diagram.	**05**
	(c)	Define i) Crystal Lattice ii) Crystal Habit iii) Polymorphs iv) Crystal Solvates v) Amorphous Compounds.	**05**
Q.5	**(a)**	Explain Soxhlet extractor for continuous hot extraction with a neat and labelled diagram.	**06**
	(b)	Write a note on solvents used for extraction.	**05**
	(c)	Explain the principle, construction, working, advantages, limitations and applications of triple roller mill with help of a neat sketch.	**05**
Q. 6	**(a)**	Explain the effect of compressional force on powders/granules. Explain Kawakita equation and its use in compression.	**06**
	(b)	Explain the theory of compaction and compression.	**05**
	(c)	What is caking of crystals? What are the reasons behind it? Explain methods for prevention of caking of crystals.	**05**
Q.7	**(a)**	Explain the importance of measurement of temperature in the pharmaceutical industry. Enumerate different devices and explain any one.	**06**
	(b)	Write brief note on fire extinguishers.	**05**
	(c)	Write the importance and applications of crystallization in pharmaceutical industry.	**05**

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