Seat No.: _____ *Enrolment No._____*

GUJARAT TECHNOLOGICAL UNIVERSITY

B. Pharmacy Sem-II examination June 2009

Subject code: 220002 **Subject Name:** Pharmaceutics-II

Date: 09/06/2009 **Time: 11:30am-2:30pm**

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)	Comment: Fluid energy mill is suitable for grinding thermolabile materials.	**02**
	(b)	Describe colloid mill with working diagram.	**04**
	(c)	Describe ball mill with working principle.	**05**
	(d)	Describe theories for energy requirement in size reduction.	**05**
Q.2	(a)	Comment: When vegetable drugs are ground and sifted, none must be rejected.	**02**
	(b)	Explain angle of repose, Carr's Index and Hausner ratio with significance.	**04**
	(c)	Describe pharmacopoeial standards for sieves.	**05**
	(d)	Explain elutriation. Describe multistage elutriation process.	**05**
Q.3	(a)	Comment: Turbine mixers are suitable for emulsification.	**02**
	(b)	Describe the factors affecting powder mixing.	**04**
	(c)	Enlist mixers for semisolids. Describe planetary mixer.	**05**
	(d)	Classify liquid mixers. Describe propeller mixers.	**05**
Q.4	(a)	Explain Co-crystals with examples	**02**
	(b)	Explain nucleation. Describe factors affecting crystal growth.	**04**
	(c)	Describe Mier's theory for supersaturation with limitations.	**05**
	(d)	Describe Swenson- Walker crystallizer with diagram.	**05**
Q.5	(a)	Explain Extraction and Manstrum.	**02**
	(b)	Discuss methods of solvent recovery in extraction process.	**04**
	(c)	Describe Soxhlet apparatus for extraction.	**05**
	(d)	Calculate the % crystal yield of glauber salt (Na_2SO_4-10 H_2O) if a pure32% solution is cooled to 20 ^oC without any evaporative loss. (Solubility of glauber salt is 19.4 gm/ 100 gm water).	**05**
Q. 6	(a)	Differentiate: Compaction and Consolidation.	**02**
	(b)	Discuss Heckel and Kawakita's equation w.r.t. compression.	**04**
	(c)	Describe different phases of compression for tableting.	**05**
	(d)	Describe Direct Compression technology for tablet manufacturing.	**05**
Q.7	(a)	Explain automated process control. Discuss key elements for the same.	**04**
	(b)	Describe automation for temperature control.	**04**
	(c)	Write brief note on fire extinguishers.	**04**
	(d)	Describe methods for waste water treatment in pharmaceutical industry	**04**

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