

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 ($\text{Na}_2\text{SO}_4 \cdot 10 \text{H}_2\text{O}$) if a pure 32% solution is cooled to 20 °C 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
