

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.

<b>Q.1</b>	(a)	Comment: Fluid energy mill is suitable for grinding thermolabile materials.	<b>02</b>
	(b)	Describe colloid mill with working diagram.	<b>04</b>
	(c)	Describe ball mill with working principle.	<b>05</b>
	(d)	Describe theories for energy requirement in size reduction.	<b>05</b>
<b>Q.2</b>	(a)	Comment: When vegetable drugs are ground and sifted, none must be rejected.	<b>02</b>
	(b)	Explain angle of repose, Carr's Index and Hausner ratio with significance.	<b>04</b>
	(c)	Describe pharmacopoeial standards for sieves.	<b>05</b>
	(d)	Explain elutriation. Describe multistage elutriation process.	<b>05</b>
<b>Q.3</b>	(a)	Comment: Turbine mixers are suitable for emulsification.	<b>02</b>
	(b)	Describe the factors affecting powder mixing.	<b>04</b>
	(c)	Enlist mixers for semisolids. Describe planetary mixer.	<b>05</b>
	(d)	Classify liquid mixers. Describe propeller mixers.	<b>05</b>
<b>Q.4</b>	(a)	Explain Co-crystals with examples	<b>02</b>
	(b)	Explain nucleation. Describe factors affecting crystal growth.	<b>04</b>
	(c)	Describe Mier's theory for supersaturation with limitations.	<b>05</b>
	(d)	Describe Swenson- Walker crystallizer with diagram.	<b>05</b>
<b>Q.5</b>	(a)	Explain Extraction and Manstrum.	<b>02</b>
	(b)	Discuss methods of solvent recovery in extraction process.	<b>04</b>
	(c)	Describe Soxhlet apparatus for extraction.	<b>05</b>
	(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).	<b>05</b>
<b>Q. 6</b>	(a)	Differentiate: Compaction and Consolidation.	<b>02</b>
	(b)	Discuss Heckel and Kawakita's equation w.r.t. compression.	<b>04</b>
	(c)	Describe different phases of compression for tableting.	<b>05</b>
	(d)	Describe Direct Compression technology for tablet manufacturing.	<b>05</b>
<b>Q.7</b>	(a)	Explain automated process control. Discuss key elements for the same.	<b>04</b>
	(b)	Describe automation for temperature control.	<b>04</b>
	(c)	Write brief note on fire extinguishers.	<b>04</b>
	(d)	Describe methods for waste water treatment in pharmaceutical industry	<b>04</b>

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