Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. Pharmacy Sem-II Remedial Examination Nov/ Dec. 2010

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

Date:30 / 11/ 2010 **Time: 10:30am- 01:30pm**

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)	Define: Size reduction. Give objectives of size reduction. Explain the mechanisms of size reduction with a suitable diagram.	**06**
	(b)	Explain the construction, working, advantages, disadvantages and uses of Ball mill with a suitable diagram. What is the importance of speed on size reduction using a ball mill?	**06**
	(c)	Justify the following statements giving suitable reasons. 1. Rate of feed is critical in size reduction by fluid energy mill. 2. The thickness of screen influences size reduction by hammer mill. 3. Moisture content plays an important role in the process of size reduction. 4. Sticky materials are difficult to size reduce.	**04**
Q.2	(a)	Define the following terms: 1. Crystal habit 2. Crystal lattice 3. Nucleation 4. Crystal hydrates 5. Amorphous compounds	**05**
	(b)	Describe the theory of crystallization explaining each stage with a suitable diagram. Explain the term Polymorphism and its significance	**06**
	(c)	Describe the construction and working of Swenson walker crystallizer	**05**
Q.3	(a)	Define mixing. Explain positive mixtures, negative mixtures and neutral mixtures with suitable examples.	**05**
	(b)	Explain the mechanisms of solid-solid mixing. Explain the construction, working and uses of planetary motion mixer.	**06**
	(c)	Describe the mixing devices used for liquid-liquid mixing?	**05**
Q.4	(a)	Define: Extraction. Enumerate types of extraction processes. Differentiate between: Maceration and Percolation	**05**
	(b)	Enumerate solvents used for extraction. Describe the properties of water and ethanol as solvents for extraction	**05**
	(c)	Explain in detail the theory of extraction	**06**
Q.5	(a)	What are the pharmacopeial standards for sieves used for size separation?	**06**
	(b)	Differentiate between: Elutriation and Sedimentation. Write a brief note on cyclone separator.	**05**
	(c)	Describe the types of industrial hazards encountered in the operation of processing plants.	**05**
Q. 6	(a)	Explain the theory of compression	**06**
	(b)	Describe the Kawakita and Heckle equations and explain their uses.	**05**
	(c)	Describe the pressure vacuum measurement systems in automatic process control systems	**05**
Q.7		Write brief notes on the following: ***[Attempt any four]***	**16**
	(a)	Meir's theory of super saturation	
	(b)	Multiple extraction	
	(c)	Energy requirements in size reduction	
	(d)	Theory of solid-liquid mixing	
	(e)	Methods of waste water treatment	

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