

**UKA TARSADIA UNIVERSITY****Maliba Pharmacy College**B. Pharm 2<sup>nd</sup> Semester Internal Examination-II, April 2013**030020201- Unit Operation**

Time: 10:00 A.M. to 1:00 P.M.

Max. Marks: **70**

Date: 29/04/2013

**Instructions:**

- Question no. **1 is compulsory.**
- From Q.2 to Q.7, attempt any **four** questions.
- Make suitable assumption whenever necessary.
- Figures to the right indicate full marks.

<b>Q.1</b>	<b>(a) Answer the following: (any six)</b>	<b>06</b>
	1 Comment: Particle density can affect the flowability of powder.	
	2 Define: Baffle	
	3 Explain the term: Mixing index	
	4 Define: Automatic process control	
	5 State Kick's law for size reduction.	
	6 Define refrigerant.	
	7 Differentiate between crystal hydrate and solvate.	
	8 Enlist materials used to prepare sieves.	
	<b>(b) Describe in brief: (any four)</b>	<b>08</b>
	1 Explain the importance of powder flow in tablets and capsules manufacturing.	
	2 What are limitations of Mier's super solubility curve	
	3 What are objectives of automated process controls systems?	
	4 What are applications of glass as material for plant construction?	
	5 What are the applications of humidification in pharmacy?	
	6 Enlist objectives of mixing process in pharmacy.	
<b>Q.2</b>	<b>(a)</b> Write a note on equipments used for dehumidification process.	<b>04</b>
	<b>(b)</b> Write a note on mechanical sieving methods.	<b>05</b>
	<b>(c)</b> Write construction, working and advantages of ribbon blender.	<b>05</b>
<b>Q.3</b>	<b>(a)</b> Differentiate between propeller mixer and turbine mixer.	<b>04</b>
	<b>(b)</b> Write principle, construction, working, uses, advantages and disadvantages of colloid mill.	<b>05</b>
	<b>(c)</b> Explain basic elements of automated process control systems.	<b>05</b>
<b>Q.4</b>	<b>(a)</b> Describe the ways to prevent of mechanical hazards?	<b>04</b>
	<b>(b)</b> Write construction, working, advantages and applications of belt conveyor.	<b>05</b>
	<b>(c)</b> Write a note on store design in pharmaceutical industries.	<b>05</b>
<b>Q.5</b>	<b>(a)</b> Write a detail note on characterization of powder flow.	<b>04</b>
	<b>(b)</b> Describe the techniques to improve powder flow.	<b>05</b>
	<b>(c)</b> Explain the factors affecting flow through an orifice of hopper.	<b>05</b>
<b>Q.6</b>	<b>(a)</b> Write principle, construction, working and applications of agitated batch crystallizer.	<b>04</b>
	<b>(b)</b> Write principle, construction, working and applications of ball mill.	<b>05</b>
	<b>(c)</b> Write a note on factors affecting selection of material for plant construction.	<b>05</b>
<b>Q.7</b>	<b>(a)</b> Describe the applications of size reduction process.	<b>04</b>
	<b>(b)</b> Enlist types of corrosion. Explain any three in detail.	<b>05</b>
	<b>(c)</b> Explain types of mixtures with suitable examples.	<b>05</b>