

**UKA TARSADIA UNIVERSITY**  
 Maliba Pharmacy College  
 B.Pharm 2<sup>nd</sup> Semester Internal Examination 2012  
**030020201- Unit Operation**

Time: 1:30 to 4:30 p.m.

Max. Marks: **70**

Date: 16/04/2012

**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.

- Q.1** (a) Answer the following: (any six) **06**
- 1 Define crystallization.
  - 2 Enumerate different type of crystals.
  - 3 Write the name of foaming agent in foam extinguisher.
  - 4 Write any two halogenated hydrocarbons.
  - 5 Fluid energy mill works on the principle of \_\_\_\_\_ and \_\_\_\_\_.
  - 6 Define mixing.
  - 7 What is the meaning of coarse powder as per British pharmacopoeia?
- (b) Describe in brief: (any four) **08**
- 1 As humidity increases, powder flow property improves. justify
  - 2 Explain the following: Cohesion force and Adhesion force
  - 3 Write a note on materials used to prepare sieve.
  - 4 Describe physical properties which influence solid mixing process.
  - 5 Write down applications of size separation process in pharmaceutical industry.
  - 6 Comment: When vegetable drug is crushed, nothing must be rejected.
  - 7 Comment: Speed of ball mill is a very critical parameter during size reduction.
- Q.2** (a) Write the factor affecting selection of material for plant construction. **04**
- (b) Define corrosion. Give classification of corrosion, explain cavitation corrosion. **05**
- (c) Write the prevention of corrosion. **05**
- Q.3** (a) Write the applications of crystallization in pharmacy. **04**
- (b) Explain the mechanism of crystallization. **05**
- (c) Draw a neat labeled diagram of Swenson walker crystallizer. Discuss the construction, working, advantages and disadvantages. **05**
- Q.4** (a) Write down methods used to determine powder flow property. **04**
- (b) Write the prevention of fire hazards. **05**
- (c) Write the prevention of mechanical hazards. **05**
- Q.5** (a) Write down objectives of mixing process in pharmaceutical industry. **04**
- (b) Describe factors affecting powder flow property. **05**
- (c) Describe mechanisms of size reduction and classify various mills based on mechanism of size reduction. **05**
- Q. 6** (a) Enlist factors affecting size reduction process. Explain any three of them in detail. **04**
- (b) Explain types of mixtures with suitable example. **05**
- (c) Describe standards of sieve. **05**
- Q.7** (a) Write a short note on hammer mill. **04**
- (b) Explain equipments used for wet sieving method. **05**
- (c) Differentiate between propeller mixer and turbine mixer. **05**