



**HS-1612010701020100** Seat No. \_\_\_\_\_

**Masters of Pharmacy Management (Sem. II)  
(CBCS) Examination**

**June / July - 2017**

**Unit Operation - II - N**

Time : 3 Hours]

[Total Marks : 80

- Instructions :**
- (1) Answer and tie both the section separately.
  - (2) Figures to the right indicate marks.
  - (3) Answer any three questions from each section
  - (4) Question no. 1 and question no. 5 are compulsory.
  - (5) Draw neat and clean diagrams as required.

**SECTION - I**

**1** Answer any **seven** question out of **ten** : **7×2=14**

- (1) What are standard sieves ?
- (2) Differentiate the mechanism attrition and impact in size reduction.
- (3) What is the difference between sedimentation and ilutriation ?
- (4) It is essential to include a sieve in the size reduction equipment. Why ?
- (5) List the equipment used for powder mixing in pharmaceutical industry.
- (6) Enumerate the application of liquid mixing.
- (7) Explain the term multiple extraction. What is its importance ?
- (8) Explain the need of extraction.
- (9) Define crystal lattice and crystal habit.
- (10) Enumerate the different types of crystals.

**2** Answer the following questions :

- (1) Discuss Ball mill with labelled diagram. **6**
- (2) Explain the construction and working of ribbon blender for mixing solids. **7**

- 3 Answer the following questions :
- (1) Explain the principle and working of cyclone separator with diagram. 6
  - (2) Describe the mechanism "of size reduction with suitable example of equipment. 7

- 4 Answer the following questions :
- (1) Describe the specification of standard sieves as per IP. 6
  - (2) What is caking of crystal ? List the factors affecting and preventive measures for caking. 7

## SECTION - II

- 5 Answer any **two** out of **three** questions : 2×7=14
- (1) Write a note on planetary mixer with labelled diagram.
  - (2) Explain the factors affecting extraction.
  - (3) Discuss the Miers super saturation theory of crystallization.

- 6 Answer the following questions :
- (1) Write a note on vacuum crystallizer with labelled diagram. 6
  - (2) Discuss the devices used for liquid-liquid mixing. 7

- 7 Answer the following questions :
- (1) Discuss chemical hazards in pharmaceutical industry. 7
  - (2) Describe the construction and working of Anderson expeller with a labelled diagram. 6

- 8 Answer the following questions :
- (1) Name various temperature measuring devices. 6  
Discuss briefly any two in details.
  - (2) What are the basic elements of automatic control systems? With a simple schematic diagram explain simple process control system. 7

