



MCR-014-003401 Seat No. _____

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

May / June - 2018

Unit Operation - II

Faculty Code : 014

Subject Code : 003401

Time : 3 Hours]

[Total Marks : 80

Instructions :

- (1) Answer and tie both the sections separately.
- (2) Figures to the right indicate marks.
- (3) Answer any three (3) questions from each section.
- (4) Que. One (1) & Que. Five (5) are compulsory.
- (5) Draw neat and clean diagrams as required.

SECTION – I

1 Answer any SEVEN out of given TEN questions : 7×2=14

- (a) Explain type of polymorphs with examples.
- (b) Define Sedimentation and Elutriation.
- (c) Explain terms with examples, positive, negative and neutral mixture.
- (d) Define : Size separation and give objectives of it.
- (e) Enlist the causes for chemical hazards.
- (f) Define and explain (a) Mixing (b) Mixing Index (c) Degree of Mixing.
- (g) Define (i) Crystal Lattice (ii) Crystal Habit.
- (h) Enlist the specifications and standards for sieve.
- (i) Write the importance and applications of crystallization in pharmaceutical industry.
- (j) Explain Marc and Menstrum.

- 2 Answer the following :
- (a) Explain Mier's supersaturation theory. 7
 - (b) Explain the Principle, construction, working, advantages, disadvantages and uses of Ball mill with a suitable diagram. 6
- 3 Answer the following :
- (a) Discuss theory of Extraction of drugs. 7
 - (b) Write a brief note on planetary mixer. 6
- 4 Answer the following :
- (a) Explain principle, construction, working, advantages and limitations of Swenson Walker crystallizer with the help of a diagram. 7
 - (b) Write brief note on fire extinguishers. 6

SECTION – II

- 5 Answer any **TWO** out of given **THREE** questions : **2×7=14**
- (a) Classify mixers for liquids. Describe Propeller mixer.
 - (b) Explain Soxhlet extractor for continuous hot extraction with a neat and labelled diagram.
 - (c) Discuss the various devices used for Liquid – Liquid mixing.
- 6 Answer the following :
- (a) Explain the principle, construction, working, advantages, limitations and applications of triple roller mill with help of a neat sketch. 7
 - (b) Write a note on solvents used for extraction. 6
- 7 Answer the following :
- (a) Write a brief account on Cyclone Separator. 7
 - (b) Describe the key elements for automated process control system. 6
- 8 Answer the following :
- (a) Describe automation for pressure control. 7
 - (b) Define size reduction. Explain different mechanisms, factors affecting and applications of size reduction. 6