



MS-014-003101

Seat No. _____

**Master of Pharmacy Management (Sem. I)
(CBCS) Examination**

January - 2018

Unit Operation - I

Faculty Code : 014

Subject Code : 003101

Time : 3 Hours]

[Total Marks : 80

Instructions :

- (1) Figures to the right indicates marks.
- (2) Answer any three question from each section.
- (3) Question one and question five are compulsory.
- (4) Draw net and clean diagrams as required.

SECTION - I

- 1** Answer any seven out of ten : **14**
- (a) Differentiate dry bulb temperature and wet bulb temperature.
 - (b) Write down Kozeny-Carman equation and give its significance.
 - (c) Write down the difference between drying and distillation.
 - (d) Enlist various factors affecting evaporation.
 - (e) Define filtration and enlist different factors affecting filtration.
 - (f) Define- critical moisture content and equilibrium moisture content.
 - (g) Define Drying and write down. its importance in the formulation of dosage forms.
 - (h) Enlist the material commonly used in packing of fractionating columns.
 - (i) Explain the principle behind centrifugal separation.
 - (j) Write down the utility of humidity chart.
 - (k) Define humidity and enlists its application.

- 2** Answer the following questions :
- (a) Explain the Principle, construction and working of plat and frame filter press. **7**
- (b) Explain the mechanism and types of Filtration. **6**
- 3** Answer the following- questions.
- (a) Explain the Principle, construction, working, advantages and disadvantages of drum dryer. **7**
- (b) Describe the construction and working of a distillation apparatus for the preparation of distilled water. **6**
- 4** Answer the following questions.
- (a) Explain in detail the molecular distillation. **7**
- (b) Describe in detail the mechanism of drying process. **6**

SECTION - II

- 5** Answer any **two** out of **three** : **14**
- (a) Define refrigeration load and explain the factors affecting refrigeration load.
- (b) Explain the Principle, construction and working of fluidized bed dryer.
- (c) Explain the. Principle, construction, working, advantages and disadvantages of falling film evaporator.
- 6** Answer the. following questions :
- (a) Write a short note on forced circulation evaporator. **7**
- (b) Write a short note on filter aids. **6**
- 7** Answer-the following questions :
- (a) Describe in detail various factors to be consider during selection of suitable filtration equipment. **7**
- (b) Define centrifugation and write down its applications. **6**
- 8** Answer the following questions :
- (a) Write a short note on perforated basket centrifuge. **7**
- (b) Describe in detail the method of measurement of humidity. **6**