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Total No. of Pages : 02

Total No. of Questions : 10

B.Pharm (2011 to 2016) (Sem.-4)

**PHARMACEUTICS IV****(Unit Operations-II)**

Subject Code : BPHM-401

Paper ID : [D1140]

Time : 3 Hrs.

Max. Marks : 80

**INSTRUCTIONS TO CANDIDATES :**

1. SECTION-A is COMPULSORY consisting of FIFTEEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains FOUR questions carrying TEN marks each and students have to attempt any THREE questions.

**SECTION-A****1. Answer briefly :**

- i. Define the term dimensionless equation.
- ii. Differentiate between a black body and grey body.
- iii. Define overall heat transfer coefficient.
- iv. Explain the term evaporator capacity.
- v. Describe Raoult's law.
- vi. What is meant by constant boiling mixtures? Give examples.
- vii. Define different types of rectifying columns.
- viii. Define CMC.
- ix. Define drying and its importance in dosage forms.
- x. Mention the factors affecting constant drying rate.

- xi. Define advantages of size reduction.
- xii. Define impact and attrition in size reduction.
- xiii. Differentiate ideal and actual screens.
- xiv. Define mechanism of mixing in solids.
- xv. Define principle of sigma blade mixer.

### SECTION-B

- 2. Define the concept of a multiple effect evaporator.
- 3. Describe the construction and working of distillation apparatus.
- 4. Explain the principle and working of drum dryer.
- 5. Describe the mechanism of size reduction with suitable examples of equipments.
- 6. Describe the method of size separation using a Rotex shaker screen.

### SECTION-C

- 7. Describe the construction, working and advantages of multipass heater.
- 8. Explain principle, working and applications of falling film molecular still.
- 9. Discuss the construction, working and advantages of fluidized bed dryer.
- 10. Describe the construction, working, advantages and disadvantages of fluid energy mill.