

[Total No. of Questions - 9] [Total No. of Printed Pages - 2]  
(2064)

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**B. Pharmacy 4th Semester Examination**

**Pharmaceutics-III (O.S.)**

**HBP-202**

**Time : 3 Hours**

**Max. Marks : 80**

*The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.*

**Note :** Candidates are required to attempt five questions in all selecting one question from each of section A, B, C & D and all the subparts of question in Section-E.

**SECTION - A**

1. (a) Define Stoichiometry. Write about general principles of stoichiometry. (10)
- (b) Write about line graph, Bar graph & pie graph. (6)
2. (a) Describe various modes of heat transfer. (10)
- (b) How amount of steam energy be determined? (6)

**SECTION - B**

3. Classify evaporators. Explain principle, construction & working of multiple effect evaporator. How you can calculate economy of multiple effect evaporators? (16)
4. Define molecular distillation. Write in detail about various molecular distillation apparatus. (16)

**SECTION - C**

5. Explain the mechanism of drying. Write about principle, construction & working of fluidized bed dryer. (16)

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**[P.T.O.]**

6. (a) Write about various factors affecting size reduction. (8)  
(b) Classify various milling equipments. Write about fluid energy mill. (8)

**SECTION - D**

7. Write about various mechanism of liquid-liquid mixing. Describe various types of mixers used for liquid mixing. (16)  
8. Discuss various process control system. How computers help in increasing productivity? (16)

**SECTION - E**

9. (a) Define Rectification.  
(b) What do you mean by HETP?  
(c) Define unit operation with example.  
(d) Define EMC and CMC.  
(e) Describe Phase Rule and Degree of freedom.  
(f) Define coarse & fine powder.  
(g) What do you mean by positive & negative mixtures?  
(h) Define Fourier's law. (2×8=16)