

PY-401**B. Pharm. (Fourth Semester)****EXAMINATION, June, 2012****PHARMACEUTICS – IV****(Pharmaceutical Engineering – II)****(PY-401)***Time : Three Hours**Maximum Marks : 70*

Note : Attempt any *five* questions. All questions carry equal marks. Give suitable diagrams as required.

1. (a) What is the general concept of pilot plant scale up ?
Give its applications in pharmaceutical industries. 8
- (b) Write a note on caking of crystals and its prevention. 6
2. What is Evaporation Process ? Discuss various factors affecting it. Write a note on film evaporators and forced circulation evaporators. 14
3. (a) Discuss the principle involved in centrifugation process. 5
- (b) Explain the working of centrifugation sedimenters, rotary filter and membrane filter. 5
- (c) Write a note on filter aids. 4
4. (a) How can crystallizers be classified ? Explain the working of any *two* crystallizers. 8
- (b) Write a note on solubility curves. 6

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5. Explain the following in brief : 14
 - (a) Liquid-liquid mixers
 - (b) Constant boiling mixers
 - (c) Rectifying columns
 - (d) Solid-solid mixers
6. (a) Classify size reduction machines with suitable examples. 10
- (b) Give importance of sieves and their usage in grading of powders. 4
7. (a) What are McCabe Thiele and Lewis Sorel method for calculation of number of theoretical plates. 10
- (b) Write a note on azeotropic and extractive distillations. 4
8. Write short notes on any *two* of the following : 7 each
 - (a) Miers supersaturation theory
 - (b) Continuous counter-current extraction system
 - (c) Special drying methods
 - (d) Physics of tablet compression