

**Second Year B.Pharm (Ayurveda) Degree Supplementary
Examinations, April 2014**

Pharmaceutical Engineering

Time: 3 Hours

Total Marks: 100

- Answer all questions.

Essays:

(2x10=20)

1. What are the types of dryers used in pharmaceutical industry. Describe the concept of spray drier and mention its advantages
2. Differentiate between simple, steam and flash distillation with neat diagram

Answer briefly:

(10x5=50)

3. Mier's super saturation theory
4. Basic equations of fluid flow
5. Fourier's law of heat conduction through a cylindrical plate
6. Any one equipment used for mixing pastes
7. What are filter aids and explain with examples
8. What are possible industrial hazards and how they can be controlled
9. Principle of pneumatic conveyor with a labeled diagram
10. What are humidity charts and mention its uses in pharmacy
11. Construction and working of film evaporator of any one type
12. What is corrosion and state how corrosion can be prevented

Short notes:

(10x3=30)

13. Compare: Conduction and radiation modes of heat transfer
14. Principle of freeze drying
15. Draw a labeled diagram of pitot tube and explain the working of same
16. Fractionating columns
17. Mechanisms of size reduction
18. What is the importance of crystallization in pharmaceutical industry
19. Principle of filtration process
20. Classify industrial centrifuges with examples
21. Define evaporation and mention the effect of vapor pressure on evaporation
22. Distinguish between drying and distillation. Mention two applications of distillation as per I.P.
