

**Second B. Pharm (Ayurveda) Degree Supplementary Examinations
August 2023**

Pharmaceutical Engineering

Time: 3 Hours**Total Marks: 100**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*

Essays:**(2x10=20)**

1. Explain Raoult's law and deviations from Raoult's law. Describe the principle of flash distillation.
2. Explain the principle of centrifugation. Add a detail note on any one centrifugal filter.

Answer briefly:**(10x5=50)**

3. Explain construction and working of Swenson Walker crystallizer.
4. Explain the principle, construction and working of drum dryer.
5. Explain the factors influencing rate of evaporation.
6. Write about the construction and working of fluid energy mill.
7. Describe glass as material of construction.
8. What is conduction. Derive the equation for heat flow through a sphere by conduction.
9. Explain the principle, construction, working and advantages of twin shell blender.
10. Add a note on chemical hazards and methods for preventing chemical hazards.
11. Describe pneumatic conveyor used for solid handling.
12. Explain the automatic process control systems used in pharmaceutical industries.

Short notes:**(10x3=30)**

13. Uses of humidity chart.
14. Principle of orifice meter.
15. Working of tray dryer.
16. Working of hammer mill.
17. Define filter media. What are the required characteristics for filter media.
18. Storage bins.
19. Construction of edge filter.
20. Principle of vacuum crystallizer.
21. Grey body.
22. Kick's theory.