

**Second B. Pharm (Ayurveda) Degree Supplementary Examinations
September 2022**

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 mechanical and electrical hazards. Describe the methods for the prevention of mechanical and electrical hazards.
2. Define evaporation. Add a note on types of evaporators. Explain the construction and working of forced circulation evaporator.

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

3. Explain the principle and working of spray dryer.
4. Add a note on objectives of size reduction.
5. Explain the principle, construction and working of any one sedimentation centrifuge.
6. Explain the construction and working of equipment used for steam distillation.
7. Add a note on principles of supersaturation, nucleation and crystal growth.
8. Explain construction and working of diaphragm pump.
9. Describe the construction and working of triple roller mill.
10. Describe principle and working of rotary drum filter.
11. Explain the principle and construction of venturimeter.
12. Explain the working of freeze dryer.

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

13. Advantages and disadvantages of glass as material of construction.
14. Define conduction, convection and radiation.
15. Types of fans for handling of gases.
16. Azeotropic distillation.
17. Bond's theory.
18. Define relative humidity, wet bulb temperature and adiabatic saturation temperature.
19. Principle of Silverson mixer – emulsifier.
20. Filter aids with examples.
21. Economy of multiple effect evaporator.
22. Construction of differential manometer.