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B. Pharmacy (Ayurveda) 4th Semester Examination
Principles of Pharmaceutical Operations (O.S.)

Paper-IV

Time : 3 Hours

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

1. Answer any ten:

(a) Laws governing energy and power requirements of mill’s.

(b) Give any four varieties of stainless steel.

(c) Suggest suitable mixers for mixing ointments.

(d) Sublimation drying.

(e) Henry’s law.

(f) Nano filtration.

(g) Attrition.

(h) Elutriation.

(i) What is enthalpy composition diagram?

(j) Dew Point.

(k) Relative Volatility.

(l) Applications of air conditioning in pharmaceuticals.

\(2 \times 10 = 20\)
2. Answer any two of the following:
   (a) What are the methods of heat transfer? Explain the law of heat transfer by conduction.
   (b) Suggest the suitable equipment which is used in the drying of thermolabile, hygroscopic material with the help of neatly labelled diagram.
   (c) Define and classify pumps? Explain with neat diagram, any two pumps.  \(2\times12\frac{1}{2}=25\)

3. Answer any two of the followings:
   (a) Describe with a neat sketch the construction and working of spray dryer?
   (b) Describe briefly the devices employed for measurement of temperature and pressure.
   (c) Describe the design and working of multiple - effect evaporator?  \(2\times10=20\)

4. Answer the following:
   (a) Comment: Freeze dried material have very good solubility.
   (b) Describe the principle of refrigeration.
   (c) Describe the preparation of purified water using simple distillation assembly.
   (d) Write a note on centrifugal sedimentor.
   (e) Write about the moisture content and LOD.  \(5\times5=25\)