31/12/09

Roll No. .....

Total No. of Questions : 10] [Total No. of Pages : 02

B.Pharmacy (Sem.-4th)

PHARMACEUTICS - III (Unit Operations - II)

SUBJECT CODE :PHM - 2.4.1

Paper ID : [D0117]

[Note : Please fill subject code and paper ID on OMR]

Time : 03 Hours Maximum Marks : 80

Instruction to Candidates:

1) Section - A is **Compulsory**.
2) Attempt any **Four** questions from Section - B.
3) Attempt any **Three** questions from Section - C.

Section - A

Q1) *(15 × 2 = 30)*

a) Define steady and unsteady states.

b) Define dimensionless groups.

c) Define coarse powder.

d) Define overall heat transfer coefficient.

e) What is the difference between single effect and multiple effect evaporation?

f) Economy of an evaporator.

g) What is the difference between evaporation and drying?

h) State Rittinger's law.

i) Write Stefan Boltzmann law.

j) Define mixing index.

k) What is flash distillation?

l) Write main uses of steam as heating medium.

m) Critical moisture content and equilibrium moisture content.

n) Define automatic process control.

o) Define negative mixture.

Section - B

(4 × 5 = 20)

Q2) What are various factors that affect the rate of evaporation?

Q3) Describe the mechanisms of size reduction.

Q4) Give various aspects for the improvement of heat transfer coefficient in evaporators.

Q5) Write a short note on azeotropic distillation.

Q6) Write an account on the types of dryers used in pharmaceutical industries.

Section - C

(3 × 10 = 30)

Q7) What are the different equipments available for mixing of solids and solids for pharmaceutical preparations?

Q8) Describe the principle, construction and working of fluid energy mill.

Q9) (a) Explain the working of falling film evaporator.

(b) Write an account on the theory of drying.

Q10) (a) Discuss the fundamentals of reactors design for chemical reactions.

(b) Write an account on the applications of computer aided manufacturing in pharmaceutical industry.