

Exam Code: 0433  
Sub. Code: 25930

2125

M.Sc. Applied Chemistry (Pharmaceutical)  
Third Semester  
Paper – 303: Unit Pharmaceutical Operations

Time allowed: 3 Hours

Max. Marks: 60

*NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting one question from each Unit.*

x-x-x

- Q.1 Briefly discuss the following- 2 ×6
- i. Dalton's Law
  - ii. Drying operations
  - iii. Two film theory of mass transfer
  - iv. Azeotropic distillation
  - v. Difference between clarification and filtration
  - vi. Difference between mixing and homogenization
- Unit I**
- Q.2 a) Discuss various pharmaceutical applications of mixing 6,6  
b) Write a note the difference between Planetary and propeller mixer
- Q.3 Write a note on the following 6,6
- a) Sterile filter operations
  - b) Filter media and filter aids
- Unit II**
- Q. 4 a) Define angle of repose with suitable example. Explain mass-volume relationship. 8,4  
b) Write a note of strength of granules
- Q. 5 a) Define centrifugation and explain its principle. 6,6  
b) Compare basket centrifuge versus continuous centrifuges
- Unit III**
- Q.6 a) Define evaporation. Discuss various factors in the operation of evaporators 6,6  
b) Discuss various types of evaporators and compare any two.
- Q.7 Discuss the following 6,6
- a) Two film theory of mass transfer
  - b) Mass transfer in binary mixtures
- Unit IV**
- Q.8 a) Explain Henry's law. Discuss briefly methods of distillation 6,6  
b) Write a note on vapor liquid equilibrium
- Q.9 a) What is crystallization and types of crystallizers 6,6  
b) Discuss briefly drying equipment's.

x-x-x