

2021

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

- 1 Briefly discuss the following- 2 × 6
- i. Agitator
 - ii. Ultra membrane filter
 - iii. Angle of repose
 - iv. Principle of centrifugation
 - v. Heat transfer coefficient
 - vi. Henry's law

Unit I

- 2 Differentiate between clarification and filtration. Discuss in details filter media and filter aids with the help of suitable example 12
- 3 Write a note on the following 6,6
- a) Compare planetary and propeller mixer
 - b) Pharmaceutical applications of mixing

Unit II

- 4 Compare basket centrifuge, centrifugal sedimenters and continuous centrifuges in terms of their advantage and disadvantages 12
- 5 Discuss basic principles used in compression and consolidation of pharmaceutical powders with the help of suitable example 12

Unit III

- 6
- a) Define evaporation. Discuss various types of evaporators. 6,6
 - b) Factor affecting operation of evaporators
- 7
- a) Define Fick's law. Discuss in detail the mass transfer in binary mixtures through a stationary gas 6,6
 - b) Write a short note on two film theory

Unit IV

- 8
- a) Define drying and discuss in detail various drying operations and related equipment used for the same. 8,4
 - b) Write a note on steam distillation
- 9 Write a note on the following 6,6
- a) Types of crystallizers
 - b) Azeotropic distillation

X-X-X