Exam Code: 0433
Sub. Code: 3455

2021
M.Sc. (Applied Chemistry/Pharmaceutical)
Third Semester
Paper – 303: Unit Pharmaceutical Operation

Time allowed: 3 Hours Max. Marks: 60

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

x-x-x

I. Briefly discuss the following:-

a) Principle of propeller mixer

b) Reynolds number

c) Pick's law of mass transfer

d) Heat transfer coefficient

e) Crystallization

f) Dalton's law (6x2)

UNIT – I

II. Discuss the following:-

a) Differentiate between mixing and homogenization

b) Pharmaceutical application of mixing with suitable example (8,4)

III. Write a note on the following:-

a) Theory of nitrations

b) Vacuum filter and its selection (2x6)

UNIT – II

IV. Define pharmaceutical powders. Discuss in details various granulation properties and strength of granules. (12)

V. Write a note on:-

a) Angle of repose and its significance in pharmaceutical operations

b) Mass-volume and force relationship in compression and consolidation of pharmaceutical powders (2x6)

P.T.O.

UNIT – III

VI. Define evaporation and its types. Discuss in details various factors involved in the operation of evaporators. (12)

VII. Discuss the following:-

a) Mass transfer in binary mixture through a stationary gas

b) Two film theory of mass transfer (2x6)

UNIT – IV

VIII. Define distillation. Discuss in detail various methods of distillation and its efficiency. (12)

IX. Write a short note on:-

a) Drying operation and related equipment's

b) Various properties of crystals and different types of crystallizers (2x6)