1127

M.Sc. (Applied Chemistry/Pharmaceutical)
3rd Semester
Paper-303: Unit Pharmaceutical Operations

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.*

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Q.1   **Briefly discuss the following with suitable example if necessary**   2×6
   i.   Vacuum filter
   ii.   Mixer
   iii.   Sedimentation
   iv.   Compression
   v.   Binary mixture
   vi.   Azeotropic distillation

UNIT I

Q.2   a)   Define filtration. Discuss various theories of filtration   12
Q. 3   Write a note on   6.6
   a)   Equipment of solid mixing
   b)   Pharmaceutical applications of mixing

UNIT II

Q. 4   a)   Define Centrifugation and its principles.   6,6
   b)   Briefly compare Sedimentation and continuous type centrifuges
Q. 5   Write a note on   6.6
   a)   Strength of granules
   b)   Angle of repose and flow rate

UNIT III

Q. 6   Write a note on   8,4
   a)   Explain Fick's law and its application in pharmaceutical operations
   b)   Two film theory
Q. 7   Define evaporation.   Discuss various types of evaporators and factors   12
involved in the operations of evaporators.

UNIT IV

Q. 8   a)   Briefly compare and contrast Dalton's law and Henry's law   6,6
   b)   Discuss various methods of distillation
Q. 9   a)   Define crystallization. Discuss various types of crystallizers   6,6
   b)   Define drying and discuss drying operations

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