

**F.Y.B.PHARM. SEMESTER-II (2011 COURSE) : WINTER -
2017**

SUBJECT: PHARMACEUTICAL ENGINEERING II

Day: Thursday
Date: 16/11/2017

W-2017-3815

Time: 10.00 AM TO 01.00 PM
Max. Marks: 80

N.B:

- 1) **Q. No.1 and Q. No.5 are COMPULSORY.**
- 2) Solve **ANY TWO** questions from each section from the remaining.
- 3) Draw neat diagram **WHEREVER** necessary.

SECTION-I

- Q.1** Solve **ANY FIVE:** (10)
- a) What is equilibrium moisture content?
 - b) What is multiple effect evaporators?
 - c) What is use of distillation in pharmacy?
 - d) Why constant rate drying period in amorphous solid is shorter than crystalline solids?
 - e) What is radiation type heat transfer?
 - f) Differentiate between climbing and falling film evaporators.
- Q.2**
- a) Explain different approaches to perform evaporation. Explain the construction and working of short tube evaporator. (10)
 - b) Explain boiling point diagrams. (05)
- Q.3**
- a) Explain construction and working of fractional distillation. (08)
 - b) With a neat labelled diagram explain tubular heat exchangers. (07)
- Q.4** Write short notes on (**ANY THREE**): (15)
- a) Steam traps
 - b) Fluid bed drying
 - c) Vapour recompression
 - d) Cocrystallisation

SECTION-II

- Q.5** Solve **ANY FIVE:** (10)
- a) Explain crystallisation by cooling.
 - b) Name the crystallisers used to prepare larger crystals.
 - c) Give examples of products based on pellets.
 - d) Give applications of spray drying.
 - e) What is extrusion?
 - f) What is spheronisation?
- Q.6**
- a) Explain in detail capsule filling. (10)
 - b) Write down principle and working of rotary tablet press. (05)
- Q.7**
- a) Explain principle and working of growth type crystalliser. (08)
 - b) Explain Swenson Walker crystalliser. (07)
- Q.8** Write short notes on (**ANY THREE**): (15)
- a) Crystallisation by adiabatic change
 - b) Roller compactor
 - c) Tablet packing techniques
 - d) Melt and antisolvent crystallisation
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