

**B PHARM**  
**(SEM-III) THEORY EXAMINATION 2018-19**  
**PHARMACEUTICAL ENGINEERING**

**Time: 3 Hours**

**Total Marks: 75**

**Note: 1.** Attempt all Sections.

**SECTION A**

- 1. Attempt all questions in brief. 10 x 2 = 20**
- a. Why there is a need for size separation?
  - b. What is boundary layer?
  - c. Give some real examples for heat transfer process (conduction, convection & radiation)
  - d. What is the relation among boiling point, vapor pressure & evaporation?
  - e. Differentiate between surface filtration and depth filtration.
  - f. Which equipment is suitable for filtration of slurry containing high solid content and why?
  - g. Write the principle of vacuum dryer.
  - h. Mention equipment suitable for semisolid mixing.
  - i. What is molecular distillation?
  - j. Give the properties of Chromium and Nickel.

**SECTION B**

- 2. Attempt any twoparts of the following: 2 x 10 = 20**
- a. Write in detail about factors influencing rate of filtration.
  - b. Write the applications of filtration, size reduction, mixing and distillation in pharma.
  - c. Elaborate the factors influencing evaporation rate. Write the principle, construction, working and advantages of forced circulation evaporators.

**SECTION C**

- 3. Attempt any fiveparts of the following: 7 x 5 = 35**
- a. Write construction and working of Orifice meter and Rotometer.
  - b. Write the principle, construction, working, uses, merits and demerits of Ball mill.
  - c. What the principle of simple distillation. Write in detail about steam distillation.
  - d. Write the principle, construction, working, uses, merits and demerits of sigma blade mixer.
  - e. Write the principle, construction, working, uses, merits and demerits of Spray dryer.
  - f. Write in detail about the factors affecting selection of a material.
  - g. What is corrosion? Write in detail about the theory of corrosion.