Printed Pages:02 **Sub Code: BP304T**

Paper Id: 150304 **Roll No.** | | | | | | | | | | |

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 *two*parts 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 *five*parts 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.