Printed Pages: 01 **Sub Code: BP -304T**

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B. PHARM.
(SEM III) THEORY EXAMINATION 2022-23
PHARMACEUTICAL ENGINEERING

Time: 3 Hours ***Total Marks: 75***

Note: Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. **2 x 10 = 20**

a. Describe Attrition & Impact.

b. Name any two mechanisms of Size Separation.

c. Define the term Entrainment. How it is prevented?

d. Compare Heat-interchanger and Heat-exchanger.

e. Differentiate between Bound Moisture & Unbound Moisture.

f. What is Convective and Diffusive Mixing?

g. Discuss Impingement & Entanglement.

h. What are Filter Aids? Discuss in brief.

i. Define Corrosion. Explain the effect of pH on corrosion.

j. Name the materials comes under Inorganic and organic non-metals.

SECTION B

2. Attempt any *two* parts of the following: **10 x 2 = 20**

a. Draw a neat sketch of Fluid Energy Mill. Describe principle, construction, working and applications of Hammer Mill.

b. Explain principle, construction, and operational details of Freeze Drying. Summarize its pharmaceutical applications also.

c. Categorize the types of Filters. Describe principle, construction and working of Plate & Frame Filter Press.

SECTION C

3. Attempt any *five* parts of the following: **7 x 5 = 35**

a. Derive an equation to determine velocity of fluid at orifice by using Orifice meter.

b. Classify Evaporators. Describe construction and working of Horizontal Tube Evaporator.

c. Distinguish between Mixing and Blending. Describe construction, working and uses of Silverson Emulsifier.

d. Compare and contrast Poiseuille's & Darcy's theory of filtration, Express Kozeny-Carman equation also.

e. Define Centrifugation. Explain theory of centrifugation with respect to centrifugal effect.

f. Discuss about the principle, construction, working and uses of Fractional Distillation.

g. Write a descriptive note on types of Stainless Steel, composition, and its uses.

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