PAPER ID-310448

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Subject Code: RP301T

Roll No

BPHARM
(SEM III) THEORY EXAMINATION 2025-26
PHARMACEUTICAL ENGINEERING

TIME: 3 HRS **M.MARKS: 75**

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

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

a. Define Raoults law
b. Write the applications of centrifugation
c. What is critical moisture content?
d. Differentiate between drying and evaporation
e. Define bound moisture content and equilibrium moisture content
f. Define molecular distillation
g. Explain Bernoulli's equation
h. What is critical speed of a ball mill?
i. Explain the principle of operation of orifice meter
j. Define galvanic corossion

SECTION B

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

a. Explain with the help of a diagram the principle, construction, working, advantages, disadvantages and applications of a ball mill.
b. Discuss the principle, construction, working, uses, merits and demerits of membrane filters
c. Classify dryers. Discuss the principle, construction, working, uses, merits and demerits of fluidized bed dryer.

SECTION C

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

a. Discuss the concept of film and overall heat transfer in forced convention.
b. Explain the working of 1-2 shell and tube heat exchanger with a labelled diagram.
c. Suggest the various factors affecting rate of evaporation.
d. Write a detailed note on rate of drying curve emphasizing constant rate and falling rate periods.
e. Enlist the various factors affecting material selection for pharmaceutical plant construction
f. Elaborate the the principle, construction, working, merits and demerits of rotary drum dryer.
g. Mention the various types of corrosion and ways to avoid them