



PAPER ID-310448

Subject Code: RP3011

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 Raoult's 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 corrosion

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 convection.
- 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 principle, construction, working, merits and demerits of rotary drum dryer.
- g. Mention the various types of corrosion and ways to avoid them