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BPHARM
(SEM III) THEORY EXAMINATION 2023-24
PHARMACEUTICAL ENGINEERING

TIME: 3 HRS**M.MARKS: 75****Note:** Attempt all Sections.**SECTION A****1. Attempt all questions in brief.****10 x 2 = 20**

- a. Draw a labeled diagram of fluid energy mill.
- b. Ball mill is not useful for size reduction of fibrous material. Explain
- c. Define distillation.
- d. Explain Fourier's law for conduction of heat.
- e. Suggest suitable equipments for solid-solid mixing.
- f. What is free moisture content.
- g. Write use of super centrifuge.
- h. What are filter aids?
- i. What is corrosion?
- j. Classify materials used for the construction of the plant.

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

- a. Describe the principle, construction, working, uses and merits of the ball mill with a well labeled diagram.
- b. Explain the basic principle and methodology of flash distillation.
- c. Describe various types of corrosion and suggest the methods to prevent the same in the pharmaceutical industry.

SECTION C**3. Attempt any seven parts of the following:****7 x 5 = 35**

- a. Describe the construction, working, uses and merits of cyclone separator.
- b. Explain the working of any one heat interchanger with a labeled diagram.
- c. How do you classify dryers? Explain the principle of drum dryer.
- d. Write a note on perforated basket centrifuge.
- e. Write a note on the utility of glass and stainless steel in pharmaceutical industry.
- f. Give a neat sketch of venturi meter and explain its principle and working.
- g. Discuss factors influencing evaporation.
- h. Draw the neat sketch of the ribbon blender and give its principle, working and application.
- i. Describe the construction, working, uses, merits and demerits of the filter leaf with a well labeled diagram.