

B.Pharm II Year II Semester (R13) Supplementary Examinations May/June 2017

**PHARMACEUTICAL ENGINEERING – II**

Time: 3 hours

Max. Marks: 70

**PART – A**

(Compulsory Question)

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- 1 Answer the following: (10 X 02 = 20 Marks)
- (a) Define boiler capacity. Write its significance.
  - (b) List out various factors affecting evaporation.
  - (c) Classify dryers with examples.
  - (d) Write four important objectives of size reduction.
  - (e) Differentiate between propeller, turbine and paddle.
  - (f) Name various heating sources and their applications in pharmaceutical industry.
  - (g) What is Raoult's law? Write its applications.
  - (h) Draw and label a typical drying curve.
  - (i) Mention the modes of size separation with suitable examples.
  - (j) Draw and write the applications of colloid mill.

**PART – B**

(Answer all five units, 5 X 10 = 50 Marks)

**UNIT – I**

- 2 What are the types of heat exchangers? Explain any two with the help of a diagram.

**OR**

- 3 Write an essay on reactors used for chemical reactions in industry.

**UNIT – II**

- 4 Write elaborately on fractional distillation with a neat labeled diagram.

**OR**

- 5 Explain the construction and working of a climbing film evaporator.

**UNIT – III**

- 6 Describe the steps involved in working of a freeze-drier. Add a note on its applications.

**OR**

- 7 Write the construction, working and advantages of fluidized bed drier with a neat diagram.

**UNIT – IV**

- 8 (a) Write the effect of various factors on size reduction.  
(b) Explain the construction and working of fluid energy mill.

**OR**

- 9 Write in detail on the principle, construction, working, advantages and disadvantages of ball mill.

**UNIT – V**

- 10 (a) Write a note on mixer used for mixing of semi solids.  
(b) Write the principle behind the working of a double cone blender.

**OR**

- 11 Write the principle, construction, working of planetary mixer with the help of a diagram. Add a short note on its advantages and applications.

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