

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B.Ph. SEMESTER-II • EXAMINATION – WINTER -2019**

**Subject Code: BP203TP****Date: 18/12/2019****Subject Name: Pharmaceutical Engineering****Time: 10:30AM TO 01:30PM****Total Marks: 80****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Define Co-efficient of discharge. Give the difference between Orificemeter and Venturimeter. **06**  
(b) Describe the construction, working principles of fluid energy mill. **05**  
(c) Define and classify the powder as per IP and enlist the specification of sieves. **05**
- Q.2** (a) With a neat diagram explain the falling film evaporator & climbing film evaporator. **06**  
(b) Explain Fourier's law in heat transfer. **05**  
(c) Define distillation and discuss the application of distillation process in field of pharmacy. **05**
- Q.3** (a) Explain the drying rate curve and write its application. **06**  
(b) Enlist mixers for semisolids. Describe planetary motion mixer. **05**  
(c) Explain construction, working of freeze dryer. **05**
- Q.4** (a) What are basket centrifuges? Describe the theory of centrifugation. **06**  
(b) Explain theory of and mechanism of filtration. **05**  
(c) Explain principal, construction, working and advantages with labeled diagram of Metafilters. **05**
- Q.5** (a) Discuss the various factors affecting selection of material of plant construction. **06**  
(b) What is corrosion? Mention the factors that influence rate of corrosion. **05**  
(c) What are the properties of glass? What are its applications as material of construction? **05**
- Q. 6** (a) Define distillation and write a note on Raoult's law. **06**  
(b) Describe the mechanism of size reduction with suitable examples of equipment. **05**  
(c) Write a note on Rotameter. **05**
- Q.7** (a) Explain the terms: Positive Mixture, Negative Mixture and Neutral Mixture giving suitable examples. **06**  
(b) Discuss principle, construction, working, merits and demerits of spray dryer with labelled diagram. **05**  
(c) Elaborate the concept of multiple effect evaporation. **05**

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