

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM - SEMESTER- 2 EXAMINATION – SUMMER -2019**Subject Code: BP203TP****Date: 31-05-2019****Subject Name: Pharmaceutical Engineering****Time: 10:30 AM TO 01:30 PM****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) Enlist types of manometer. Describe Inclined manometer in detail. **06**
(b) Explain critical speed of Ball mill. **05**
(c) Define following terms (i) Number of sieve (ii) Nominal size of aperture (iii) approximate percentage sieving area (iv) sifting (v) Moderately fine powder. **05**
- Q.2** (a) Explain Heat exchangers. **06**
(b) Define evaporation. Give principle & operation of forced circulation evaporator. **05**
(c) Classify distillation methods. Explain molecular distillation. **05**
- Q.3** (a) Give principle & construction of fluidized bed dryer with its merits & demerits. **06**
(b) Explain mechanism of mixing in solids. **05**
(c) Write a note on Silveson Emulsifier. **05**
- Q.4** (a) Write Principle, Construction, Working, Uses, Merits and demerits of plate & frame filter press with diagram. **06**
(b) Differentiate surface filtration & depth filtration with diagram. **05**
(c) Explain centrifuge to separate two immiscible liquids with labeled diagram. **05**
- Q.5** (a) Explain factors affecting selection of materials for pharmaceutical plant construction **06**
(b) Write a note on Ferrous and nonferrous metals. **05**
(c) Discuss types of corrosion and there prevention. **05**
- Q. 6** (a) Explain following terms (i) CMC (ii) EMC (iii) Loss on Drying. **06**
(b) Explain laws governing size reduction. **05**
(c) Draw a labeled diagram of venturi-meter & explain its construction & working. **05**
- Q.7** (a) Differentiate (i) Conduction & Convection (ii) Drying & Evaporation **06**
(b) Explain fractional distillation with detailed diagram. **05**
(c) Describe Principle, Construction, Working, & Uses of Meta filter with diagram. **05**
