

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B.Pharm. – SEMESTER II– • EXAMINATION – WINTER -2018

Subject Code:BP203TP

Date:13/12/2018

Subject Name: Pharmaceutical Engineering

Time: 02:30 PM TO 05:30 PM

Total Marks: 80

Instructions:

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

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| Q.1 | (a) Classify flow meters. Explain Rotameter with general design & working. | 06 |
| | (b) Enlist mechanisms of size reduction. Describe fluid energy mill in detail. | 05 |
| | (c) Enlist official standards of powders. Discuss the principle and operation of Cyclone Separator. | 05 |
| Q.2 | (a) What is distillation? Explain fractional distillation with detailed diagram. | 06 |
| | (b) What is manometer? Explain anyone in detail. | 05 |
| | (c) Define evaporation. Give principle & operation of climbing film evaporator. | 05 |
| Q.3 | (a) Explain heat transfer mechanisms in detail. | 06 |
| | (b) Describe principle & methodology of steam distillation. | 05 |
| | (c) What is Reynolds number? Show how it is dimensionless. What is its significance in fluid flow? | 05 |
| Q.4 | (a) Explain drying curve with its application. | 06 |
| | (b) Give principle & construction of freeze dryer with its merits & demerits. | 05 |
| | (c) Classify solid mixers. Explain any one in detail. | 05 |
| Q.5 | (a) Write a brief note on objectives & theories of filtration. | 06 |
| | (b) Explain filter used for filtration of sterile preparations. | 05 |
| | (c) Explain construction & working of supercentrifuge with diagram. | 05 |
| Q. 6 | (a) Write short note on Glass as a material for plant construction. | 06 |
| | (b) Explain factors affecting selection of materials for pharmaceutical plant construction | 05 |
| | (c) Write a short note on theory of corrosion with its importance. | 05 |
| Q.7 | (a) Derive the Bernoulli's equation with proper assumption. | 06 |
| | (b) Differentiate Orifice meter and Venturimeter. | 05 |
| | (c) Define the filter aid. Give the example of filter aid & methods of addition. | 05 |
