

(LO 2037)

MARCH 2019

Sub. Code: 2037

**B.PHARM. DEGREE EXAMINATION**  
**PCI Regulation – SEMESTER III**  
**PAPER IV – PHARMACEUTICAL ENGINEERING**

*Q.P. Code: 562037*

**Time: Three hours**

**Maximum: 75 Marks**

**I. Elaborate on: Answer any TWO questions. (2 x 10 = 20)**

1. Describe the construction, working principle, efficiency, merits and demerits of Fractional distillation.
2. Discuss in detail Ball Mill.
3. Write about the principle, construction, working and application of Freeze dryer.

**II. Write notes on: Answer any SEVEN questions. (7 x 5 = 35)**

1. Describe various types of iron as material of construction.
2. Cyclone Separator.
3. Factors affecting size reduction.
4. Sigma blade Mixer.
5. Describe with a diagram 'Venturimeter'.
6. Forced circulation evaporator.
7. Different Sources of heat.
8. Bernoulli's Theorem.
9. Filter leaf.

**III. Short answers on: Answer ALL questions. (10 x 2 = 20)**

1. Convection.
2. Heat interchangers.
3. Applications of size separation.
4. Centrifugation.
5. What are the standard for sieves?
6. Advantages of plastics.
7. Filter aids.
8. Define Corrosion.
9. Calandria.
10. Double cone blender.

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(LP 2037)

SEPTEMBER 2019

Sub. Code: 2037

**B.PHARM. DEGREE EXAMINATION  
PCI REGULATION – SEMESTER III  
SECOND YEAR  
PAPER IV – PHARMACEUTICAL ENGINEERING**

*Q.P. Code: 562037*

**Time: Three hours**

**Maximum: 75 Marks**

**I. Elaborate on: Answer any TWO questions. (2 x 10 = 20)**

1. Explain the principle, construction, working, uses, merits and demerits of Climbing film evaporator.
2. Discuss in detail Filter Press.
3. Explain the theory behind Corrosion. How will you prevent and control Corrosion?

**II. Write notes on: Answer any SEVEN questions. (7 x 5 = 35)**

1. Rota meter.
2. Concepts of Boundary layer.
3. Write briefly on mechanism of heat transfer.
4. Propellers.
5. Edge runner mill.
6. Stainless steel as the material of pharmaceutical plant construction.
7. Steam distillation.
8. Materials used for plant construction.
9. Super centrifuge.

**III. Short answers on: Answer ALL questions. (10 x 2 = 20)**

1. Turbulent Flow.
2. What are the grades of powder?
3. Write any two factors influencing Filtration.
4. Lyophilisation.
5. Homogenization.
6. Define Filter Aids.
7. Centrifugal effect.
8. What is latent heat?
9. Fourier's Law.
10. Volatility.

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**THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY**

**[BPHARM 0921]**

**SEPTEMBER 2021  
(SEPTEMBER 2020 EXAM SESSION)**

**Sub. Code: 2037**

**B.PHARM. DEGREE EXAMINATION  
PCI Regulation 2017 – SEMESTER III  
PAPER IV - PHARMACEUTICAL ENGINEERING**

***Q.P. Code: 562037***

**Time: Three hours**

**Maximum: 75 Marks**

**I. Elaborate on: Answer any TWO questions. (2 x 10 = 20)**

1. Describe the mechanism and different modes of Stress applied in size reduction. Write the principle, construction and working of Fluid energy mill.
2. Explain the Reynolds experiment & Bernoulli's theorem of fluid flow.
3. Write about the principle, construction, working and application of FBD.

**II. Write notes on: Answer any SEVEN questions. (7 x 5 = 35)**

1. Cyclone Separator.
2. Mechanism of Filtration.
3. Factors affecting size reduction.
4. Planetary mixer.
5. Multiple effects of Evaporator.
6. Glass as the material of Pharmaceutical plant construction.
7. Different sources of Heat.
8. Explain Raoult's law of distillation.
9. Basic of Material handling systems.

**III. Short answers on: Answer ALL questions. (10 x 2 = 20)**

1. Lyophilization.
2. Critical moisture content.
3. Applications of Centrifugation.
4. Fourier's law.
5. What are the standards for Sieves?
6. Comminution.
7. Filter media.
8. Binary mixture.
9. Calandria.
10. Flash distillation.

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