SECOND B.PHARM. EXAM
PAPER IV – PHARMACEUTICAL TECHNOLOGY
Q.P. Code : 564259

Time : Three hours   **Maximum: 100 Marks**
(180 Min)   Answer ALL questions in the same order.

I. Elaborate on:

	Pages (Max.)	Time (Max.)	Marks (Max.)
1. Explain the principle and working procedure of Fractional distillation apparatus. Illustrate the fractional distillation of the mixture of components with the boiling point-composition diagram.	19	33	20
2. Describe the mechanism and different modes of stress applied in size reduction? Write the principle, construction and working of Fluid energy mill.	19	33	20

II. Write notes on:

1. Measurement of rate of flow of fluids by venturi meter.	3	8	5
2. Theories of filtration.	3	8	5
3. Short tube Evaporator.	3	8	5
4. Physical Factors influencing selection of materials of pharmaceutical Plant Construction.	3	8	5
5. Fluidised bed dryer.	3	8	5
6. Mechanism of Crystallization.	3	8	5
7. Planetary mixer.	3	8	5
8. Cyclone separator.	3	8	5

III. Short Answers:

1. Primary Refrigerants with examples.	1	5	2
2. Different mechanisms of Heat flow.	1	5	2
3. Destructive distillation.	1	5	2
4. Humidity Ratio.	1	5	2
5. Corrosion.	1	5	2
6. Electrostatic precipitation.	1	5	2
7. Centrifugal effect.	1	5	2
8. Bernoulli's theorem.	1	5	2
9. Caking of crystals.	1	5	2
10. Free moisture content.	1	5	2

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Time : Three hours   Maximum: 100 Marks
       (180 Min)

I. Elaborate on: (2x20=40)
1. Define Crystallization. Discuss about the Mier's Super Saturation Theory. Enumerate the Principle, construction, working and advantages of Swenson Walker Crystallizer.
2. Explain the theory behind Correction. How will you prevent and control Corrosion?

II. Write notes on: (8x5=40)
1. Central Air Conditioning System.
2. Multiple Effect Evaporator.
3. Steam distillation of Industrial scale.
4. Glass as the material of Pharmaceutical plant Construction.
5. Chemical hazards.
6. Equilibrium Moisture content.
7. Conical disc centrifuge.
8. Rotary Drum Filter.

III. Short Answers: (10x2=20)
1. Area meters.
2. Cake Filtration.
3. Vortex Formation.
4. Circulating load.
5. Definition of Valves and Pumps.
6. Different sources of heat.
7. Eutectic Point.
8. Comminution.
9. Binary mixture.
10. Bound Water.

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Time: Three Hours　　　　　　　　　　　　**Maximum: 100 marks**

I. Elaborate on:　　　　　　　　　　　　　(2X20=40)

1. Discuss in detail about the method of determination of humidity by dewpoint and psychometric methods

2. Write the principle and procedure involved in extractive and azeotropic distillation process add a note on the application of distillation process.

II. Write notes on:　　　　　　　　　　　　(8X5=40)

1. Spary dryer
2. krystal crystallizer
3. Factors affecting filltration
4. Types of measurement of flow of fluids
5. Factors affecting size reduction
6. Tubular heaters
7. Vertical tube evaporators
8. Considerations while mixing solids in a mixer.

III. Short Answers on:　　　　　　　　　　(10X2=20)

1. Percentage humidity
2. Laminar flow
3. Fourier's law
4. Lyophilisation
5. Applications of centrifugation
6. Galvonic corrosion
7. Seitz filter
8. Saturation temperature
9. Venturimeter
10. Critical moisture content

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Time: Three Hours   Maximum: 100 marks

I. Elaborate on: **(2X20=40)**

1. Explain the principle, construction, working and application of Film evaporators.
2. Enumerate the various factors affecting filtration. Discuss about Rotary filter.

II. Write notes on: **(8X5=40)**

1. Azeotropic distillation.
2. Freeze dryer.
3. List out types of valves and explain any one.
4. Enumerate mechanism involved in size reduction with suitable example.
5. Sources of heat.
6. Sigma blade mixer.
7. Krystal crystalliser.
8. Stainless steel as materials of plant construction.

III. Short Answers on: **(10X2=20)**

1. Relative humidity.
2. Steam distillation.
3. Multiple effect evaporator.
4. Sublimation.
5. Prevention of fire hazards.
6. Filter media.
7. Types of crystals.
8. Relative Volatality.
9. Triplle roller mill.
10. Double cone blender.

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SECOND YEAR B.PHARM. DEGREE EXAMINATION

Paper IV – PHARMACEUTICAL TECHNOLOGY

Q. P. Code: 564259

Time: Three Hours   **Maximum: 100 Marks**

Answer All Questions

I. Essay Questions: **(2 x 20 = 40)**

1. a) Write a role on stainless steel in material of plant construction in the pharmaceutical industry.

    b) Draw and explain the Psychrometric chart.

2. Define viscosity and explain about Venturimeter and Orifice meter.

II. Short Notes: **(8 x 5 = 40)**

1. Explain Raoult's law of distillation.

2. Write a note on chemical hazards.

3. Give an account on gear pump.

4. Explain cartridge filter.

5. Write briefly on mechanism of heat transfer.

6. What are the uses, advantages and disadvantages of fluidized bed dryer?

7. Write a note on double cone blender.

8. Write the construction and working of ball mill.

III. Short Answers: **(10 x 2 = 20)**

1. How will you prepare super saturation solution for crystallization from a given solution?

2. Define valves.

3. What are all the disadvantages with thermostatic steam trap?

4. Define evaporation.

5. Define centrifugation.

6. Uses of phase diagram

7. Define humidity.

8. Define Bernouli's theorem.

9. Define distillation.

10. Advantage of hammer mill.

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