

B. PHARM.
THIRD SEMESTER
PHARMACEUTICAL ENGINEERING
BP304T [REPEAT]
[USE OMR SHEET FOR OBJECTIVE PART]

Duration : 3 hrs.

Full Marks : 75

[PART-A : Objective]

Time : 30 min.

Marks : 20

Choose the correct answer from the following:

1×20=20

1. Drying is essential after one of the following operations
 - a. Crystallization
 - b. Evaporation
 - c. Mixing
 - d. Size reduction
2. In drying process, final product in the form of
 - a. Slurry
 - b. Solid
 - c. Solution
 - d. Concentrated solvent
3. The movement of large portions of material from one location to another location is called
 - a. Bulk transport
 - b. Diffusion
 - c. Agitation
 - d. Convection
4. Which of the following is also known as V cone Blender?
 - a. Twin shell blender
 - b. Double cone blender
 - c. Ribbon blender
 - d. Colloid mill
5. The process in which centrifugal force is used as driving force for phase separation is called
 - a. centrifugation
 - b. Filtration
 - c. evaporation
 - d. Distillation
6. Corrosion can be prevented by
 - a. Use of corrosion inhibitors
 - b. Coating and lining
 - c. By changing the environment
 - d. All of the above
7. Which of the following is also called uniform attack corrosion
 - a. General corrosion
 - b. Localised corrosion
 - c. Structural corrosion
 - d. Biological corrosion
8. Connective mixing is also termed as
 - a. Diffusive mixing
 - b. Micro mixing
 - c. Macro mixing
 - d. Shear mixing
9. Which type of distillation is used for the preparation of aromatic spirit of ammonia?
 - a. Flash distillation
 - b. Fractional distillation
 - c. Molecular distillation
 - d. Simple distillation

10. In distillation, distillate is
- | | |
|--|--------------------------|
| a. Feed liquid in distillation apparatus | b. concentrated solution |
| c. Liquid which is collected by condensation | d. Dilute solution |
11. Which mill is used for size reduction of fibrous materials?
- | | |
|----------------|------------------|
| a. Hammer mill | b. Cutter mill |
| c. Ball mill | d. None of these |
12. Which one of the following is not a size reduction process?
- | | |
|------------------|------------------|
| a. Clarification | b. Comminution |
| c. Diminution | d. Pulverisation |
13. Porcelain piece is added into distillation flask before distillation because
- | | |
|--------------------------------|---|
| a. To avoid chances of bumping | b. To avoid overheating |
| c. To get uniform mixing | d. To raise the level of liquid in Distillation flask |
14. Which principle operates in the hammer mill?
- | | |
|--------------|-------------|
| a. Attrition | b. Crushing |
| c. Cutting | d. Impact |
15. During size separation, movement of the particles can be enhanced by one of the following methods:
- | | |
|----------------|--------------|
| a. Agitation | b. Attrition |
| c. Gravitation | d. Mixing |
16. Which one of the following indicates nominal size of aperture?
- | | |
|---------------------------------------|--|
| a. Area of mesh as percentage | b. Distance between two adjacent wires |
| c. Number of meshes per linear length | d. Wire having specified diameter that gives suitable aperture |
17. Filtration is a unit operation that is commonly used for collecting:
- | | |
|----------------|-----------------------|
| a. Filtrate | b. Particulate matter |
| c. Precipitate | d. Slurry |
18. In clarification process, which factor is more important?
- | | |
|---------------------------|----------------------------------|
| a. Depth of the media | b. Pore size of the filter media |
| c. Surface area of filter | d. Volume of slurry |
19. Filter aids are mainly used when:
- | | |
|--|-----------------------------------|
| a. Liquid is required as product | b. Filter medium is not available |
| c. Solid and liquid are required as products | d. Solids are required as product |
20. For sterile filtration, which one of the following techniques are used?
- | | |
|-----------------------------|-----------------------|
| a. Cake filtration | b. Depth filtration |
| c. Electrostatic filtration | d. Surface filtration |

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(PART-B : Descriptive)

Time : 2 hrs. 30 min.

Marks : 35

[Answer any seven (7) questions]

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|---|-------|
| 1. What is drying? Explain rate of drying curve. | 1+4=5 |
| 2. Define corrosion? Write about prevention of corrosion. | 1+4=5 |
| 3. Write the differences between solid and liquid mixing? | 5 |
| 4. Write detail note on principle behind centrifugation and application of centrifuge. | 5 |
| 5. What are the mechanisms and modes of stress applied in size reduction? | 5 |
| 6. Explain the different theories of size reduction. | 5 |
| 7. Write the principle and working mechanism of Fluid energy mill. | 5 |
| 8. What are the different factors affecting filtration? Explain. | 5 |
| 9. What are sieves? Discuss the construction and types of sieves used in pharmaceutical industry. | 5 |

(PART-C : Long type questions)

[Answer any two (2) questions]

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|--|----|
| 1. Write the principle, construction, working and uses of freeze dryer? | 10 |
| 2. Explain construction and working of apparatus used for fractional distillation on laboratory and large scale. | 10 |
| 3. Write in details about the different mechanisms and theories of filtration. | 10 |

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