

**B. PHARM.
THIRD SEMESTER
PHARMACEUTICAL ENGINEERING
BP304T**

**SET
B**

[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. During size separation, movement of the particles can be enhanced by one of the following methods:
 - a. Agitation
 - b. Attrition
 - c. Gravitation
 - d. Mixing
2. Filtration is a unit operation that is commonly used for collecting:
 - a. Filtrate
 - b. Particulate matter
 - c. Precipitate
 - d. Slurry
3. 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
4. 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
5. For sterile filtration, which one of the following techniques are used?
 - a. Cake filtration
 - b. Depth filtration
 - c. Electrostatic filtration
 - d. Surface filtration
6. 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
7. Which principle operates in the hammer mill?
 - a. Attrition
 - b. Crushing
 - c. Cutting
 - d. Impact
8. Which one of the following is not a size reduction process?
 - a. Clarification
 - b. Comminution
 - c. Diminution
 - d. Pulverisation
9. Which mill is used for size reduction of fibrous materials?
 - a. Hammer mill
 - b. Cutter mill
 - c. Ball mill
 - d. None of these

10. 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
11. In distillation, distillate is
 - a. Feed liquid in distillation apparatus
 - b. concentrated solution
 - c. Liquid which is collected by condensation
 - d. Dilute solution
12. 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
13. Connective mixing is also termed as
 - a. Diffusive mixing
 - b. Micro mixing
 - c. Macro mixing
 - d. Shear mixing
14. Which of the following is also called uniform attack corrosion
 - a. General corrosion
 - b. Localised corrosion
 - c. Structural corrosion
 - d. Biological corrosion
15. Corrosion can be prevented by
 - a. Use of corrosion inhibitors
 - b. Coating and lining
 - c. By changing the environment
 - d. All of the above
16. The process in which centrifugal force is used as driving force for phase separation is called
 - a. centrifugation
 - b. Filtration
 - c. evaporation
 - d. Distillation
17. 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
18. Drying is essential after one of the following operations
 - a. Crystallization
 - b. Evaporation
 - c. Mixing
 - d. Size reduction
19. The movement of large portions of material from one location to another location is called
 - a. Bulk transport
 - b. Diffusion
 - c. Agitation
 - d. Convection
20. In drying process, final product in the form of
 - a. Slurry
 - b. Solid
 - c. Solution
 - d. Concentrated solvent

(PART-B : Descriptive)

Time : 2 hrs. 30 min.

Marks : 35

[Answer any seven (7) questions]

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]

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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