

PARUL UNIVERSITY
FACULTY OF PHARMACY
B. Pharm. Winter 2022 - 23 Examination

Semester: 3
Subject Code: BP304T
Subject Name: Pharmaceutical Engineering

Date: 17/10/2022
Time: 10:00am to 1:00pm
Total Marks: 75

Instructions:

1. Figures to the right indicate maximum marks.
2. Make suitable assumptions wherever necessary.

Q.1 Multiple Choice Questions (MCQs) (1 Mark Each)

(20)

1. As viscosity increase Rate of evaporation,
a) Increase
b) Decrease
c) Constant
d) None of above
2. Ball mill works on the principle of
a) Attrition
b) Impact
c) Attrition and Impact
d) Cutting
3. One of the following is not a flow meter
a) Orifice meter
b) Venturimeter
c) Rotameter
d) Inclined Manometer
4. Bernoulli's Theorem does not include one of the following energy
a) Potential Energy
b) Kinetic Energy
c) Thermal Energy
d) Pressure Energy
5. Absolute alcohol is prepared by one of the following
a) Azeotropic Distillation
b) Simple Distillation
c) Steam Distillation
d) Vacuum Distillation
6. Uneven mixing leads to one of the following problems in tablet manufacturing
a) Content uniformity variation
b) Drug release study
c) Friability problems
d) poor flow of granules
7. This is not a type of sieve used in pharmaceutical process
a) Coated Sieve
b) Woven wire sieve
c) punched plates
d) bolting cloth sieve
8. If $Re < 2100$ the flow is
a) Turbulent
b) Laminar
c) Laminar to Turbulent
d) None of the above
9. Pressure difference can be measured with
a) Venturimeter
b) Orifice Meter
c) Rotameter
d) Manometer
10. Separation of volatile oil is performed by
a) Filtration
b) Evaporation
c) Distillation
d) Crystallization
11. Centrifugal force depends on
a) Mass
b) Velocity
c) Distance from the center
d) All of the above
12. Flow of heat is not applicable in
a) Drying
b) Crystallization
c) Refrigeration
d) Centrifugation
13. This is the example of filter aid
a) Talc
b) Charcoal
c) Paper pulp
d) All of the above

14. Rate of evaporation will increase with
 - a) Decreasing the temperature
 - b) Increased surface area
 - c) Increased environmental pressure
 - d) All of the above
15. Triple roller mill used in the production of
 - a) Tablet
 - b) Ointment
 - c) Granules
 - d) Syrup
16. A pure liquid can be separated from a solution through
 - a) Separating funnel
 - b) Fractional distillation
 - c) Centrifuging
 - d) Simple distillation
17. It is the process used to separate insoluble particles from liquids
 - a) Drying
 - b) Filtration
 - c) Extraction
 - d) Sieving
18. Remaining solid on filter paper is known as
 - a) Solution
 - b) Stone
 - c) Particles
 - d) Residue
19. The equipment used for Solid mixing is
 - a) Paddle
 - b) Turbine
 - c) Propeller
 - d) Double cone blender
20. As the thickness of filter medium increases, rate of filtration____
 - a) decreases
 - b) increases
 - c) no change
 - d) any may possible

Q.2 Long Answers (any 2 out of 3) (10 Mark Each)

(20)

1. Discuss different factors that affect the rate of filtration.
2. Explain in detail: Factors influencing evaporation
3. Define Size reduction. Explain the mechanisms of size reduction with its application in pharmaceutical industry.

Q.3 Short Answers (any 7 out of 9) (5 Mark Each)

(35)

1. Write short note on Venturimeter.
2. Discuss applications of Planetary Mixers.
3. Draw a well labeled diagram of Rotary Drum Filter
4. Discuss merits and demerits of Double Cone Blender.
5. Describe objective, applications and mechanism of Drying
6. Differentiate between steam distillation & fractional distillation
7. Define and give mechanisms of mixing with its application in pharmacy.
8. How the Reynold's number is significant to find a type of flow? Explain the experiment.
9. Write a note on cyclone separator.