

PARUL UNIVERSITY
FACULTY OF PHARMACY
B. Pharm. Winter 2018 - 19 Examination

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

Date: 03/12/2018
Time: 2:00 pm to 5:00 pm
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. The following substances can be separated by distillation:
a) Salt and water
b) Methanol and water
c) Sand and water
d) None of above
2. As viscosity increase Rate of evaporation,
a) Increase
b) Decrease
c) Constant
d) None of above
3. It is used as the filter aid
a) Keiselguhr
b) Cellulose
c) Asbestos
d) All of these
4. Glass filtration funnel is made up of
a) Soda ash
b) Pyrex
c) Quartz
d) Limestone
5. Black surfaces are good for _____ heat transfer.
a) Conduction
b) Convection
c) Radiation
d) Condensation
6. The process used to obtain the solute from the solution is called:
a) Evaporation
b) Distillation
c) Condensation
d) Conduction
7. Residue is the term given to the solid obtained from:
a) Crystallization
b) Filtration
c) Chromatography
d) Drying
8. Colloid mill is based on the principle of
a) attrition
b) impact
c) shearing
d) compression
9. _____ is the randomization of dissimilar particles.
a) Mixing
b) Drying
c) Size reduction
d) Size separation
10. Size reduction is used to improve the
a) physical stability
b) dissolution rate
c) rate of absorption
d) all of the above
11. Metal used for making the sieve
a) Zinc
b) Stainless steel
c) Tin
d) Aluminum
12. Most commonly used size separating instrument in laboratory is
a) Cyclone separator
b) Sedimentation tank
c) Sieve shaker
d) All of the above
13. How the liquid does gets separated in freeze dryer?
a) Boiling
b) Distillation
c) Freezing and crystallization
d) Evaporation
14. Which dryer uses radiation for drying?
a) Spray dryer
b) Drum dryer
c) Flash dryer
d) Microwave dryer

15. Reynold's number of Laminar flow is,
 a) <2000
 b) >4000
 c) 2000-4000
 d) None of above
16. Rectification is also known as _____ Distillation.
 a) Flash
 b) Fractional
 c) Steam
 d) Simple
17. LMTD means_____.
 a) Log mean temperature difference
 b) Log median temperature difference
 c) Log mean time difference
 d) None of the above
18. It is used for material of pharmaceutical plant construction.
 a) Steel alloy
 b) Copper
 c) Glass
 d) All of these
19. As the thickness of filter medium increases, rate of filtration____
 a) decreases
 b) increases
 c) no change
 d) any may possible
20. Which one is not used for liquid - liquid mixing.
 a) paddle
 b) double cone blender
 c) turbine
 d) propeller

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

(20)

1. Define Size reduction. Explain the mechanisms of size reduction with its application in pharmaceutical industry.
2. Write a note on Heat Exchangers.
3. Explain perforated and non-perforated basket type centrifuge with labeled diagram.

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

(35)

1. What is Reynold's number. Give its importance with applications.
2. Differentiate between steam distillation & fractional distillation.
3. Give the mechanism of drying and its applications.
4. Discuss the factors affecting rate of evaporation.
5. Define and give mechanisms of mixing with its application in pharmacy.
6. Discuss the Sieve shaker & Cyclon separator used for size separation.
7. Explain FMC curve.
8. Write a note on filter leaf.
9. Explain theory of corrosion.