

Question Paper

Exam Date & Time: 06-Jan-2021 (09:30 AM - 12:30 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

Pharmaceutical Engineering [PCE-BP304T]

Marks: 75

Duration: 180 mins.

I Multiple Choice Questions (MCQs)

Answer all the questions.

Section Duration: 30 mins

- 1) Q1. A ball mill uses _____ (1)
1. Impact
2. Attrition
3. Impact & Attrition
4. None of the mentioned
- 1
 2
 3
 4
- 2) Q2. Which of the following uses attrition? (1)
1) Ball mill
2) Plate mill
3) Roller mill
4) All of the mentioned
- 1
 2
 3
 4
- 3) Q3. The rate of evaporation increases if surface area of liquid is (1)
1) Large
2) Small
3) Moderate
4) None of the above
- 1
 2
 3
 4
- 4) Q4. Which of the following is also called as pneumatic dryer? (1)
1) Spray dryer
2) Tray dryer
3) Freeze dryer
4) Fluidized bed dryer
- 1
 2
 3
 4
- 5) Q5. _____ is a critical feature of the drying operation. (1)
1) Pressure
2) Temperature
3) Moisture
4) Volume

- 1
- 2
- 3
- 4

6)

Q6. Which of the following is an example of negative mixture?

- 1) Paste
- 2) Emulsion
- 3) Elixir
- 4) Ointment

(1)

- 1
- 2
- 3
- 4

7)

Q7. Improper mixing leads to _____ in tablet manufacture.

- 1) Variation in content uniformity
- 2) Fluctuation in disintegration time
- 3) Friability problems
- 4) Poor flow of granules

(1)

- 1
- 2
- 3
- 4

8)

Q8. _____ is NOT a mechanism of filtration.

- 1) Entanglement
- 2) Impingement
- 3) Impact
- 4) Straining

(1)

- 1
- 2
- 3
- 4

9)

Q9. In the operation of a filter press, what is the sequence of the plates, frame and washing plates? (1)

- 1) 1.2.3.2.2.3.2
- 2) 1.2.3.1.2.3.1.2.3
- 3) 1.2.3.1.1.2.3.1
- 4) 1.2.3.2.1.2.3.2.1

- 1
- 2
- 3
- 4

10)

Q10. Which of the following is a continuous-type filter?

- 1) Drum filter
- 2) Plate and frame filter press
- 3) Filter leaf
- 4) Seitz filter

(1)

- 1
- 2
- 3
- 4

11)

Q11. Which of the following contains a skimming tube?

- 1) Perforated basket centrifuge
- 2) Non-perforated basket centrifuge
- 3) Super centrifuge
- 4) Semi-continuous centrifuge

(1)

- 1

- 2
- 3
- 4

12) Q12. Process of centrifugation is unaffected by (1)
1) Centrifugation time
2) Nature of slurry
3) Speed of centrifuge
4) Temperature

- 1
- 2
- 3
- 4

13) Q13. Breakage of crystals is observed with (1)
1) Perforated basket centrifuge
2) Non-perforated basket centrifuge
3) Super centrifuge
4) Semi-continuous centrifuge

- 1
- 2
- 3
- 4

14) Q14. Duriron and Durichlor refer to commercial grades of (1)
1) Glassed steel
2) Cast iron
3) Carbon steel
4) Stainless steel

- 1
- 2
- 3
- 4

15) Q15. Which of the following type of glass is used in the packaging of infusion fluids? (1)
1) Regular soda lime glass
2) Borosilicate glass
3) Treated soda lime glass
4) Flint glass

- 1
- 2
- 3
- 4

16) Q16. _____ is used as lining materials for plants as it can bond easily to steel (1)
1) Soft rubber
2) Hard rubber
3) Carbon rubber
4) Butyl rubber

- 1
- 2
- 3
- 4

17) Q17. Which of the following material is used for sterile filtration? (1)
1) Porcelain
2) Clay
3) Asbestos
4) Silica

- 1
- 2
- 3

4

- 18) Q18. _____ is essential for dry corrosion to occur. (1)
- 1) Hydrogen
 - 2) Oxygen
 - 3) Chlorine
 - 4) Sulphur

1

2

3

4

- 19) Q19. Repeated sliding or vibration of metals on uneven rough surfaces leads to (1)
- 1) Stress corrosion
 - 2) Erosion corrosion
 - 3) Cavitation corrosion
 - 4) Fretting corrosion

1

2

3

4

- 20) Q20. Graphite corrosion is a type of _____ (1)
- 1) Structural corrosion
 - 2) Localized corrosion
 - 3) Biological corrosion
 - 4) General corrosion

1

2

3

4

II Long Answers

Answer all the questions.

- 1) Explain principle, construction and working of orifice meter (10)
- 2) Define Fourier's Law. Explain transfer of heat through metal wall using Fourier's law (10)

III Short Answers

Answer all the questions.

- 1) Explain Reynold's Experiment (5)
- 2) Draw a neat and labelled diagram of a shell-and-tube heat exchanger and explain its construction (5)
- 3) How is vortex formation prevented in liquid mixing? Illustrate with suitable diagrams. (5)
- 4) Enlist the differences between drying and evaporation. Mention two uses and advantages of a vacuum dryer (5)
- 5) Discuss the principle, construction and working of a perforated basket centrifuge. (5)
- 6) Write a note on filter media. What are filter aids? (5)
- 7) Explain any FIVE types of localized corrosion. (5)

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