Seat No: _____

Enrollment No: _____

PARUL UNIVERSITY
FACULTY OF PHARMACY
B. Pharm. Summer 2021 - 22 Examination

Semester: 3rd **Date: 7-4-2022**
Subject Code: BP304T **Time: 10:00am To 1:00pm**
Subject Name: Pharmaceutical Engineering **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 Value of " U " of heat transfer is used in
   a) Conduction b) Convection
   c) Radiation d) Both a and b
2. Ball mill works on the principle of_____.
   a) Impact b) Compression
   c) Attrition d) Compression & Attrition
3. Sterile Dosage form delivered in containers which are made of _____.
   a) Lime soda glass b) Type I
   c) Type II d) Type I & II glass
4. Distillation is the process of converting liquid into its vapours by _____ and reconverting it again into liquid by _____ the vapours.
   a) Condensing, Heating b) Heating, Convection
   c) Heating, Condensing d) Convection, Condensing
5. Find out one of the below mentioned theory which is not describe the rate of filtration.
   a) Darcy law b) Poiseuille's equation
   c) Kozeny Carman Equation d) Noyes Whitney equation
6. To increase the rate of filtration filter aids used in concentration of _____.
   a) 1-5 % b) 0.01-0.05 %
   c) 0.1-0.5 % d) 0.001-0.005 %
7. The rate of filtration is _____proportional to consistency of liquid.
   a) Inversely b) Directly
   c) Equal d) None of the above
8. Vena contracta occurs in _____.
   a) Venturi Meter b) Orifice Meter
   c) 7000 rpm d) 8000 rpm
9. The transfer of heat in a solid and a liquid takes place by _____method.
   b) Conduction b) Convection
   c) Radiation d) Both a and b
10. The fluid flow in which the fluid particles in one layer do not mix with the fluid particles in the other layer is called as _____.
    a) Laminar Flow b) Turbulent Flow
    c) Layer Flow d) None 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) Cyclon Separator b) Sedimentation Tank
    c) Sieve Shaker d) All of the above
13. Sieve number indicates the number of meshes in _____.
    a) 2.54 nm b) 25.4 nm
    c) 254 nm d) 0.254 nm
14. Fluid Energy Mill is also known as _____.
    a) Micronizers b) Jet mill

c) Pulverizers d) All of the above

15. In cyclone separator, the powder is separated depending on its _____
    a) Particle size b) Particle size and density of particle
    c) Density of particle d) Shape of particle
16. Fluid Energy Mill reduces the particles upto_____
    a) 8 micron or less b) 6 micron or less
    c) 5 micron or less d) 3 micron or less
17. _____ is used for size reduction.
    a) Hammer mill b) Hot air oven
    c) Filter press d) Mixture
18. _____ is used for size separation.
    a) Sieve shaker b) Hot air oven
    c) Mixture d) Filter press
19. _____ process is used to separate components of liquid mixture
    a) Distillation b) Size separation
    c) Size reduction d) Mixing
20. Evaporation is a process to remove excess _____.
    a) Water b) Powder
    c) Wax d) Gelatin

Q.2 Long Answers (any 2 out of 3) (10 Mark Each) **(20)**

1. Draw neat and clean diagram of **venturi meter** and explain in detail about its principle, working, construction, advantages, disadvantages and uses.
2. Draw neat and clean diagram of **Fluidized Energy Mill** and explain in detail about its principle, working, construction, advantages, disadvantages and uses.
3. Draw neat and clean labeled diagram of **Tubular Heat Exchanger** and explain in detail about its principle, working, construction, advantages, disadvantages and uses.

Q.3 Short Answers (any 7 out of 9) (5 Mark Each) **(35)**

1. Define material handling and write a note on objectives of material handling.
2. Explain in detail factor affecting on size separation.
3. Define Corrosion and write a short note on types of Corrosion.
4. Draw neat and clean diagram of **Non-perforated Basket Centrifuge** and explain in detail about its principle and working.
5. Draw neat and clean diagram of **Cartridge Filter** and explain in detail about its principle and working.
6. Draw neat and clean diagram of **Fluidized Bed Dryer** and explain in detail about its principle and working.
7. Draw neat and clean diagram of **Horizontal Tube Evaporator** and explain in detail about its principle and working.
8. Write a note on advantages and disadvantages of drying.
9. Write a note on simple distillation.