



Seat No.	
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Set **P**

B.Pharm. (Semester – III) (New) (CBCS) Examination, 2018
PHARMACEUTICAL ENGINEERING

Day and Date : Monday, 17-12-2018
Time : 10.30 a.m. to 1.30 p.m.

Max. Marks : 75

1. MCQ's : **20**

- 1) If particle of fluid flow same path the flow said to be
 - a) Laminar flow
 - b) Turbulant flow
 - c) Fluid flow
 - d) Both a) and b)
- 2) Fluid energy mill is also known as
 - a) Micronizer
 - b) Jet Mill
 - c) Pulveriser
 - d) All of the above
- 3) Bernoullis equation can be derived from conservation of
 - a) Energy
 - b) Mass
 - c) Angular momentum
 - d) None of the above
- 4) End runner mill works on principle of
 - a) Crushing and Friction
 - b) Cutting and Attrition
 - c) Crushing and Shearing
 - d) Grinding
- 5) Manometer is used to measure
 - a) Fluid flow
 - b) Fluid pressure
 - c) Temperature
 - d) Pressure
- 6) The mill does not have any moving part in the grinding area
 - a) Disintegrator Mill
 - b) Hammer Mill
 - c) Collid Mill
 - d) Fluid energy Mill
- 7) Which mill works on principle impact and attrition ?
 - a) Hammer Mill
 - b) Ball Mill
 - c) Roller Mill
 - d) All the above

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- 8) Heat transfer take place as per
- a) Zeroth law of thermodynamics
 - b) First law of thermodynamics
 - c) Second law of thermodynamics
 - d) Kirchhoff's Law
- 9) Elutriation is process of
- a) Size reduction using mechanical force
 - b) Size separation using stationary fluid
 - c) Size reduction using electrical force
 - d) Size separation by using moving fluid
- 10) Evaporation occur only
- a) After boiling
 - b) After extreme cooling
 - c) At surface of fluid
 - d) None of the above
- 11) Heat transfer in liquid and gases takes place by
- a) Conduction
 - b) Convection
 - c) Radiation
 - d) None of the above
- 12) Fourier law of heat conduction is valid for
- a) One dimensional cases only
 - b) Two dimensional cases only
 - c) Three dimensional cases only
 - d) None of the above
- 13) Most commonly used size separation instrument in laboratory
- a) Cyclone separator
 - b) Sedimentation tank
 - c) Sieve shekar
 - d) All the above
- 14) Differential distillation is
- a) Simple distillation
 - b) Vaccum distillation
 - c) Molecular distillation
 - d) None of the above
- 15) The condensate which returns to the liquid mixture is known as
- a) Distillate
 - b) Feed
 - c) Distilland
 - d) Reflux
- 16) How the liquid does gate separate in freeze dryer ?
- a) Boiling
 - b) Distillation
 - c) Freezing
 - d) None of the above



- 17) Moisture inside the substance is known as
 - a) Bound moisture
 - b) Unbound moisture
 - c) Equilibrium moisture
 - d) Free moisture
- 18) This is irreversible type of mixing
 - a) Positive mixing
 - b) Negative mixing
 - c) Neutral mixing
 - d) None of the above
- 19) Which one of the following is continuous type of centrifuge ?
 - a) Perforated centrifuge
 - b) Super centrifuge
 - c) Non-perforated centrifuge
 - d) None of the above
- 20) Corrosion of metal involves
 - a) Physical reaction
 - b) Chemical reaction
 - c) Both a) and b)
 - d) None of the above

2. Solve **any two** :

(2×10=20)

- 1) Define distillation, write application of distillation and explain construction, working laboratory scale vacuum distillation unit.
- 2) Explain in detail Ball Mill with its merits and demerits.
- 3) Write construction, working principle, advantage, disadvantage of Fluid energy mill .

3. Solve **any seven** :

(7×5=35)

- 1) Write in detail factor affecting size reduction.
- 2) Write pharmaceutical application and mechanism of size reduction.
- 3) Write a note on spiral plate exchanger with its advantage and disadvantages.
- 4) Explain in detail Multiple effect evaporator.
- 5) Explain theory of corrosion.
- 6) Write pharmaceutical application of filtration and theory of filtration.
- 7) Write a note on Lyophilizer .
- 8) Define corrosion and explain types of corrosion.
- 9) Write factor affecting on mixing and explain mechanism of solid mixing.