Bachelor of Pharmacy (B.Pharm IInd Year) (CBCS Pattern) Third Semester

BP 304T - Pharmaceutical Engineering

P. Pages : 3 **GUG/W/18/10887**

Time : Three Hours * 3 0 2 4 * Max. Marks : 75

Notes : 1. Diagrams and Chemical equation should be given wherever necessary.
2. Illustrate your answers wherever necessary with the help of neat sketches.
3. All questions are compulsory.

1. Multiple choice questions. **20**

1) The point at which diameter of fluid stream get less than in trial volume of diameter is called ----------.
   a) Vena Contracta b) Critical point
   c) Eutectic Point d) Freezing point

2) In end runner mill, size reduction is done by
   a) Cutting b) Crushing and shearing
   c) Impact d) Heating

3) Size reduction is also known as ----------.
   a) Comminution b) Segregation
   c) Compaction d) Separation

4) If Reynolds number, Re < 2000, indicates flow is
   a) Laminar b) Turbulent
   c) Transient d) All of the above

5) Screen number denotes number of meshes in linear length?
   a) 0.25mm b) 254mm
   c) 2.54mm d) 25.4mm

6) For black body the value of b is equals to
   a) $5.67x10^{-8} W/m^2k^4$ b) $2.27 W/m^2k^4$
   c) $1.22x10^{-8} W/m^2k^4$ d) $2x10^{-4} W/m^2k^4$

7) Which of following is not mechanism involved in solid-solid mixing?
   a) Convective b) Shear
   c) Diffusive d) Bulk transport

8) Which of following statement related to process of evaporation that is incorrect.
   a) Evaporation occurs at any temperature
   b) Evaporation takes place within liquid
   c) Evaporation is slow process
   d) No bubbles are formed in liquid during evaporation.

9) Silverson mixer is used for Preparation of
   a) Lotion b) Emulsion
   c) Elixirs d) Suspension

10) Which of following distillation process is also called evaporative distillation.
a) Molecular b) Flash
c) Steam d) Fractionating distillation.

11) Higher the value of mixing index, greater will
a) Homogeneity b) Solubility
c) Viscosity d) Density

12) Which of the following dryer is used for coating of granules.
a) Tray dryer b) Drum dryer
c) Fluidized bed dryer d) Spray dryer

13) If solid contains less moisture than EMC, then solid will continuously absorb water until EMC is reached. This is called ---------.
a) Sorption b) Desorption
c) Isothermal desorption d) Desiccation

14) Biological corrosion is due to
a) Changing resistance to surface film
b) Developing corrosive environment
c) Altering rate of anodic/cathodic reaction
d) All of the above

15) Which of following theory not describe rate of filtration?
a) Noyes Whitney equation b) Darcy law
c) Kozeny carman equation d) Poiseuille's equation

16) During wet corrosion.
a) The anodic part undergoes oxidation
b) Cathodic part undergoes oxidation
c) Anodic part undergoes reduction
d) None of the above

17) Which of following filtration equipment operate in operation.
a) Rotary drum filter b) Meta filter
c) Membrane filter d) Seitz filter

18) Addition of -------- produce amber coloured glass.
a) Iron oxide b) Zinc oxide
c) Magnesium oxide d) Aluminum oxide

19) The process in which centrifugal force is used as driving force for phase separation is called ----------.
a) Centrifugation b) Filtration
c) Evaporation d) Distillation

20) Which of following is of cast iron alloys available in market.
a) Duriron b) Durichlor
c) Both a & b d) Duraderum

2. Solve **any two.** **20**

a) Discuss the construction, working, advantages and disadvantages of spray dryer.

b) Explain the principle & procedure of molecular distillation. What are its applications?

c) What is corrosion? Name the various types of corrosion. How can corrosion be presented?

3. Solve **any seven.** **35**

a) Explain the factors which should be considered during selection of material for pharmaceutical plant construction.

b) Explain the characteristics of different types of flow. Add a note on Reynolds number.

c) Explain the working of heat exchange with a labelled diagram.

d) Explain with help of diagram the construction and working of a ball mill.

e) List the laws governing size reduction. What is work index?

f) Explain various grades of powders official in pharmacopoeia.

g) Draw the neat sketch of the sigma blade blender and give its working.

h) Describe in details about filter media & filter aids.

i) Describe continuous centrifuges, giving their advantages.

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