B. PHARM.
THIRD SEMESTER
PHARMACEUTICAL ENGINEERING
BP304T [REPEAT]
[USE OMR FOR OBJECTIVE PART]

SET A

Duration : 3 hrs.

Full Marks : 75

PART-A: Objective

Time : 30 min.

Marks : 20

Choose the correct answer from the following:

$1 \times 20 = 20$

1. In drying process, final product is in the form of ....
   a. Slurry
   b. solid
   c. Gas
   d. solutions

2. Which one of these instruments is suitable for measuring a minute pressure difference in a fluid?
   a. U-tube manometer
   b. Inclined manometer
   c. Differential manometer
   d. Kinetic velocity head

3. Dry spots are formed during one of the following periods
   a. Constant Rate period
   b. First falling period
   c. Initial adjustment period
   d. Second falling period

4. Which of the following is also called as V cone Blender?
   a. Twin shell blender
   b. Double cone blender
   c. Ribbon blender
   d. Colloid mill

5. Which One of The Following Experiments Is Used for The Study of Flow Of Fluids?
   a. Bernoulli's
   b. Orifice Meter
   c. Reynolds
   d. Stokes

6. Separation of Liquid by Distillation Is Based on One of The Following Principles?
   a. Boiling Point
   b. Miscibility
   c. Vapour Pressure
   d. Viscosity

7. Filtration is a unit operation that is commonly used for collecting
   a. Filtrate
   b. Particulate matter
   c. Precipitate
   d. Slurry

8. A centrifugal method is used for one of the following processes?
   a. Mixing
   b. Purification
   c. Separation
   d. Sizing

9. Ball Mill operates at the speed of?
   a. Low speed
   b. High speed
   c. Optimum speed
   d. All the above

10. Which one is called coarse powder?
   a. It is powder in which all the particles must pass through the sieve no. 10
   b. It is powder in which all the particles must pass through the sieve no. 22
   c. It is powder in which all the particles must pass through the sieve no. 44
   d. It is powder in which all the particles must pass through the sieve no. 85

11. Fluid Energy Mill works on the principle of:
   a. Impact & Attrition
   b. Rotor & Stator
   c. Compression
   d. Attrition

12. .... is the average velocity of any fluid at which viscous flow changes into turbulent flow
   a. Critical dynamics
   b. Critical velocity
   c. Critical density
   d. Critical fluid

13. Drying process takes long time in one of the following equipment
   a. Drum dryer
   b. Fluidized bed dryer
   c. Spray dryer
   d. Tray dryer

14. Flywheel is used to enhance the motion of particles by one of the following modes
   a. Brushing mode
   b. centrifugal mode
   c. Gyration mode
   d. Oscillation mode

15. Fourier's law is applicable to one of the following types of heat flow.
   a. Conduction
   b. Convection
   c. Radiation
   d. Emission

16. What is the source of heat in most of the evaporators?
   a. Coal
   b. Hot water
   c. Oil bath
   d. Steam

17. The solid that has high specific gravity remains in one of the following states in a centrifuge tube, once centrifugation is completed
   a. Bottom
   b. Middle
   c. Top
   d. Uniform

18. How many liquids are used in differential manometer?
   a. Four
   b. One
   c. Three
   d. Two

19. Corrosion of metals is fairly high in one of the following mediums.
   a. Acidic
   b. Alkaline
   c. Neutral
   d. Non-aqueous

20. Reynolds number is indicative of one of the following.
   a. Fluid flow type
   b. Frictional factor
   c. Pumping rate
   d. The roughness of the pipe

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PART-B: Descriptive

Time : 2 hrs. 30 min.　　　　　　　　　　　　　　　　　　Marks : 35

[Answer any seven (7) questions]

1. Write the principle construction and working of flash distillation　　5

2. Derive the pressure differences of simple manometer?　　5

3. Write the devices used in liquid -liquid mixing　　5

4. What is corrosion? Write about the theories of corrosion　　1+4=5

5. Write principle, construction and working and uses of ball mill　　5

6. Write in details about official standards for powders　　5

7. What is centrifugation? Write in details about perforated basket centrifuge　　1+4=5

8. What is evaporation? Write principle, and working involved in Evaporating Pan　　1+4=5

9. Write the mechanism of size reduction? Mentions all the laws governing size reduction process　　2.5+2.5=5

(PART-C : Long type questions)

[Answer any two (2) questions]

1. Explain Bernoulli's theorem   **10**

2. What is EMC? Describe in detail about rate of drying curve   **1+9=10**

3. Derive the pressure difference between layers of liquid? Describe   **5+5=10**
   Reynolds Experiment with diagram?

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