Code No: BP304T   (PCI)   SET - 1

II B. Pharmacy I Semester Supplementary Examinations, Oct/Nov - 2020
PHARMACEUTICAL ENGINEERING

Time: 3 hours   Max. Marks: 75

Note: 1. Question paper consists of three parts (**Part-I**, **Part-II & Part-III**)
2. Answer ALL (Multiple Choice) Questions from **Part-I**
3. Answer any **TWO** Questions from **Part-II**
4. Answer any **SEVEN** Questions from **Part-III**
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PART –I

1. (i) The mechanism involved in filter leaf is _____   (1M)
a) Depth filtration   b) Surface filtration   c) Cake filtration   d) All

(ii) The rate of flow is measured in hydrodynamic method by using_____   (1M)
a) Orifice meter   b) Venturimeter   c) Rotameter   d) All

(iii) _____is used to predict the nature of flow (viscous or turbulent).   (1M)
a) Reynold's number   b) Viscosity   c) Density   d) All

(iv) The devices used for the measurement of pressure differences____   (1M)
a) Venturimeters   b) Rotometers   c) Manometers   d) Orifice meters

(v) _____centrifuge is used for separating two immiscible liquid phases   (1M)
a) Perforatedbasket   b) Non-perfoeatedbasket
c) Continuos horizontal   d) Super

(vi) In_____ centrifuge, the solids pass through the porous medium based on   (1M)
difference in the densities of solid and liquid phases.
a) Sedimentation   b) Ultra   c) Filtration   d) None

(vii) $q = km.A.\Delta t/l$ is the expression for_____   (1M)
a) Fourier's law   b) Charles law   c) Newton's law   d) All

(viii) Rotar and stator is present in which size reduction equipment   (1M)
a) Roller mill   b) Hammer mill   c) Ball mill   d) Colloidal mill

(xi) Twin shell blender is also known as____ blender   (1M)
a) Double cone   b) Tumbling   c) Ribbon   d) V-cone

(x) The principle of high shear and kneading actions is involved in ___ mixer   (1M)
a) Double cone   b) Sigma blade   c) Planetary   d) V-cone

(xi) The following which dryer is used for drying the solutions, slurries and   (1M)
suspensions.
a) Spray dryer   b) Drum dryer   c) Tray dryer   d) Vacuum dryer

(xii) Freeze dryer is used for drying of _____   (1M)
a) Blood samples   b) Antibiotics   c) Vitamins and Enzymes   d) All

(xiii) Impact and attrition principle is involved in the working of ____   (1M)
a) Ball mill   b) Hammer mill   c) Roller mill   d) Rotatory cutter mill

(xiv)	The mechanism of mixing in ribbon blender is _____ a) Shearing b) Attrition c) Rolling d) All	(1M)
(xv)	When solids are present in less than 1 % w/v concentration, the process of its separation is called as____ a) Filtration b) Clarification c) Removal d) Elimination	(1M)
(xvi)	_____is a physical factor influencing selection of materials in plant construction. a) Strength b) Mass c) Thermal conductivity d) All	(1M)
(xvii)	In the expression of Equilibrium Moisture Content, Vapour pressure of wet mass is equal to Vapour pressure of _____ a) Solvent in mass b) Solid particles c) Atmosphere d) Gases	(1M)
(xviii)	_____is defined as the distance the impeller would move through the fluid per revolution. a) Zone b) Height c) Pitch d) Region	(1M)
(xix)	The formation of an oxide layer over the surface is observed in _____corrosion a) Wet b) Dry c) a and b d) None	(1M)
(xx)	Steam distillation is the most common example of____distillation a) Separational b) Differential c) Evoporative d) All	(1M)

PART –II

2. a) Explain the principle and working of Non-perforated basket centrifuge.   (5M)

   b) Explain the methodology of steam distillation.   (5M)

3. a) Write about the types of corrosion and describe its prevention.   (5M)

   b) State the significance of Rotary drum filters.   (5M)

4. a) Describe the principle and working of Tray dryer.   (5M)

   b) Write the importance of Reynold's number.   (5M)

PART –III

5. Describe the principle, working, merits and demerits of Fluidized bed dryer.   (5M)

6. Explain the principle, construction, working and uses of Cyclone separator.   (5M)

7. Explain the mechanism of liquids mixing and semisolids mixing.   (5M)

8. Discuss the mechanism of drying. Add a note on rate of drying curve.   (5M)

9. List out the factors affecting materials selected for pharmaceutical plant construction.   (5M)

10. Explain the construction and working of horizontal tube evaporator.   (5M)

11. State the mechanism of heat transfer and explain briefly about heat exchangers.   (5M)

12. Discuss about the factors affecting size reduction.   (5M)

13. Describe in detail about Twin shell blender.   (5M)