BRAINWARE UNIVERSITY

Term End Examination 2022
Programme – B.Pharm-2020/B.Pharm-2021
Course Name – Pharmaceutical Engineering
Course Code - BP304T
(Semester III)

Full Marks : 75 **Time : 3:0 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question) 1 x 20=20

1. *Choose the correct alternative from the following :*

(i) Who has proposed that the filtration process is similar to the streamline flow of a liquid under pressure through capillaries?

a) Carman b) Darcy
c) Kozeny d) Poiseuilli

(ii) The fluid flows through the filter medium by the virtue of:

a) Potential difference across the membrane b) Potential difference across the filter
c) Temperature difference across the filter d) Volume difference across the filter

(iii) What is the unit of pressure energy in hydraulics?

a) Metre b) Pascal
c) Joules d) Kg. M/s2

(iv) Type I glass is also known as-

a) Soda lime glass b) Treated soda lime glass
c) Type NP glass d) Borosilicate glass

(v) In fluidized bed dryer, prefilter is used to filter-

a) Air b) Fines
c) Moisture d) Particles

(vi) â€œImpactâ€ is the mechanism of size reduction for which of the following mill?

a) Roller mill b) Cutter mill
c) Hammer mill d) Fluid energy mill

(vii) The SI unit of energy is -

a) Kelvin b) Joule
c) Meter d) Calorie

(viii) The potential energy in Bernoulliâ€™s theorem is also known as-

a) Datum energy b) Kinetic energy

c) Thermal energy
d) Resonance energy

(ix) In ball mill, the balls should occupy _____ of the volume of the cylinder?

a) 10 to 20 %
b) 30 to 50%
c) 20 to 40%
d) 40 to 60%

(x) State the following properties is responsible for the use of mercury in manometers?

a) High surface tension
b) High vapour pressure
c) Low specific gravity
d) Low vapour pressure

(xi) Size reduction of a brittle thermolabile substance should be done by-

a) Cutter mill
b) Hammer mill
c) Colloid mill
d) Fluid energy mill

(xii) Which one of the following is not covered under the definition of fluids?

a) Gases
b) Liquids
c) Solids
d) Vapour

(xiii) Reynolds number may be defined as the ratio of -

a) Elastic force to pressure force
b) Gravity force to inertial force
c) Inertial force to viscous force
d) Viscous force to inertial force

(xiv) Write the unit of pressure energy in hydraulics?

a) Joules
b) Kg. M/s2
c) Metre
d) Pascal

(xv) How many liquids are used in differential manometer?

a) Four
b) One
c) Three
d) Two

(xvi) Evaporator tubes are generally

a) Horizontal
b) Vertical
c) Random
d) Inclined

(xvii) Silverson mixer is preferably used for -

a) Elixirs
b) Syrup
c) Mouthwash
d) Emulsion

(xviii) Separation of liquids by distillation is based on the principle of-

a) Boiling point
b) Miscibility
c) Vapour pressure
d) Viscosity

(xix) Generation of heat is a major disadvantage of-

a) Colloid mill
b) Triple roller mill
c) Planetary mixer
d) Silverson mixer

(xx) Plate and frame filter is a type of -

a) Rotary filtration
b) Pressure filtration
c) Batch filtration
d) Continuous filtration

Group-B

(Short Answer Type Questions) 5 x 7=35

2. Write a note on sedimentation centrifuge. (5)
3. Discuss the merits and demerits of venturimeter over orificemeter. (5)
4. Describe the function of the Animal Board of India (5)
5. Briefly discuss the mechanism of mixing. (5)
6. Write the applications, advantages and limitations of different kind of plastics in pharmaceutical industry. (5)

OR

Describe the method of size separation using a Rotex shaker screen. (5)

7. Write a note on instrumental application of Bernoulli's theorem. (5)

OR

Explain the construction and working of a cyclone separator with the help of a diagram. (5)

8. Explain the factors affecting rate of filtration. (5)

OR

With a neat diagram discuss the principle, construction and working of ball mill. (5)

Group-C

(Long Answer Type Questions) 10 x 2=20

9. Define filtration along with advantages and disadvantages including discussion about plate and frame filter press with neat diagram. (10)

OR

Define centrifugation along with applications and write a note on non-perforated basket centrifuge. (10)

10. Describe about Reynolds number and its significance. (10)

OR

With a suitable diagram describe the principle, construction, working and uses of perforated basket centrifuge. (10)

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