

B.Pharm. CBCS Pattern Semester-IV
BP 403T - Physical Pharmaceutics -II

P. Pages : 3

Time : Three Hours



GUG/W/23/11987

Max. Marks : 75

- Notes :
1. All questions are compulsory.
 2. Illustrate your answers wherever necessary with the help of neat sketches.

1. Multiple choice questions.

20

- i) ----- governs that the higher the valency of the ions, the greater is its precipitating power.
 - a) Schule-hardy rule
 - b) Gold number
 - c) Newton's law
 - d) First law of thermodynamics
- ii) Kinematic viscosity is the ratio of dynamic viscosity to the
 - a) Density of the fluid
 - b) Plastic viscosity
 - c) Volume of liquid to flow
 - d) Specific gravity of fluid
- iii) 1m. Pa.S=.....cp
 - a) 100
 - b) 1000
 - c) 10
 - d) 1
- iv) The unit of strain is
 - a) Nm
 - b) Nm^{-2}
 - c) Ns
 - d) Dimensionless
- v) The size of dispersed particles in coarse dispersion ranges from
 - a) $1\mu\text{m}$ to $100\mu\text{m}$
 - b) 1 nm to 100 nm
 - c) 1 mm to 100 cc
 - d) less than $1\mu\text{m}$
- vi) In flocculated suspension, the rate of sedimentation is
 - a) Low
 - b) More
 - c) Zero
 - d) 50%
- vii) The greater the thixotropy, the ----- is the physical stability of suspension?
 - a) Higher
 - b) Equal
 - c) Lower
 - d) No change
- viii) Brownian movement of particles ----- Sedimentation?
 - a) Prevent
 - b) Assist
 - c) Enhance
 - d) No effect
- ix) When an emulsion is exposed to ultraviolet radiations. If the continuous fluorescence is observed under microscope, then it is ----- type emulsion.
 - a) w/o
 - b) o/w
 - c) micro-emulsion
 - d) nano emulsion
- x) Dilute emulsion exhibits ----- flow.
 - a) Newtonian
 - b) Non Newtonian
 - c) Plastics
 - d) Both b and c

- xi) The value of Poisson ratio ranges from
 - a) 0.1 to 0.5
 - b) 0.001 to 0.01
 - c) 1 to 5
 - d) 2 to 4
- xii) The powder having low bulk density or large bulk volume is known as
 - a) Light powder
 - b) Heavy powder
 - c) Bulk powder
 - d) Granular powder
- xiii) Helium Pycnometer is used to determine
 - a) Size
 - b) True density
 - c) Sedimentation rate
 - d) Surface area
- xiv) Particle size in range of ----- can be measured by optical microscopy.
 - a) 0.2 to 100 μm
 - b) 50 to 1500 μm
 - c) 1 to 200 μm
 - d) 0.5 to 1000 μm
- xv) If Reynolds number IS GREATER THAN -----, flow is turbulent.
 - a) 0.2
 - b) 1.8
 - c) 9.0
 - d) 18.0
- xvi) Chemical kinetics is the study of the
 - a) Rate of chemical reactions
 - b) Particle size
 - c) Rheological property
 - d) Interfacial tension
- xvii) Which of the following methods/used for determination of order of reaction?
 - a) Graphic method
 - b) Substitution method
 - c) Half-life method
 - d) All of the above
- xviii) The reaction is called as -----, if only one type of molecular undergoes a change to yield the product
 - a) Unimolecular
 - b) Bimolecular
 - c) Trimolecular
 - d) Tetramolecular
- xix) Stability data guideline for climatic zone III & IV comes under___ICH
 - a) Q1C
 - b) Q1E
 - c) Q1F
 - d) Q1D
- xx) Which of the following equations is used for predicting the shelf life of a drug product?
 - a) Edmundson equation
 - b) Arrhenius equation
 - c) Michaelis Menten equation
 - d) Henderson-hasselbalch equation

2. Solve any two.

$$\begin{array}{r} 10 \times 2 \\ = 20 \end{array}$$

- Define thixotropy. Give detail account on different types of thixotropic curve, mechanism for their behavior & measurement of thixotropy with suitable example.
- Explain various methods for determining surface area.
- Explain in detail kinetics properties of colloids.

3. Solve any seven.

**5x7
=35**

- a) Explain different climatic zones.
- b) Define half-life in a first order. Explain the concept of half-life in a first order.
- c) What is difference between upward and downward creaming?
- d) Explain different theories of emulsification.
- e) Explain the concept of settling of suspension.
- f) Write detailed note on types of deformation.
- g) Describe principle and working of cone and plate viscometer.
- h) Describe any two methods for the purification of colloids.
- i) Write detailed note on specific acid base catalysis.
