

B.Pharm. CBCS Pattern Semester-III
BP302T - Physical Pharmaceutics-I

P. Pages : 3

Time : Three Hours



GUG/W/23/10885

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. 20x1 =20**
- i) Polymorphism in which one of the polymorphs may reverts to the state of the other at a critical temperature and pressure is referred as
 - a) Enantiotropy
 - b) Monotropy
 - c) Crystalline
 - d) Allotropy
 - ii) With an increase in temperature, the solubility in liquid will -----
 - a) Increase
 - b) Decrease
 - c) First increase then decrease
 - d) First increase then decrease
 - iii) One of the following is not a method for surface tension measurement
 - a) DuNOUY tensiometer
 - b) Viscometer
 - c) Stalagmometer
 - d) Wilhelmy Plate method
 - iv) The attractive forces between unlike substance is referred as
 - a) Cohesive force
 - b) Adhesive force
 - c) Gravitational force
 - d) Internal force
 - v) Refractive index cannot be measured by -----
 - a) Abbes refractometer
 - b) Ostwald viscometer
 - c) V block refractometer
 - d) Immersion refractometer
 - vi) Raoult's Law work only for ----- solutions.
 - a) Solute
 - b) Ideal
 - c) Non Real
 - d) None of the above
 - vii) Latent heat associated with melting of solid or freezing of liquid is called as----
 - a) Heat of fusion
 - b) Enthalpy
 - c) Surface free energy
 - d) None of the above
 - viii) Mechanism of dissolution by non-polar solvents depends on:
 - a) Hydrogen bonding
 - b) High dielectric constant
 - c) London attraction
 - d) None of the above
 - ix) Conversion of solid into liquid is called -----
 - a) Freezing
 - b) Melting
 - c) Condensation
 - d) All of the above
 - x) Condensation is the process of -----
 - a) Transition from gas phase to solid phase
 - b) Transition from gas phase to liquid phase
 - c) Transition from solid phase to gas phase
 - d) Transition from gas phase to liquid phase

- xi) When the size of particle is less than 1 nm then it is called -----
 a) Molecular dispersion b) Colloidal dispersion
 c) Suspension d) Emulsion
- xii) The term rheology was invented by
 a) Bingham and Crowford b) Newton
 c) Michaelis and Menten d) Watson and crick
- xiii) The ratio of stress to strain is called
 a) Poisson ratio b) Young Modulus
 c) Shear strain d) Elastic modulus
- xiv) The unit of strain is-
 a) N b) Nm^{-2}
 c) Nm^2 d) Dimensionless
- xv) If Zeta potential of suspension is high then system will be considered as
 a) Deflocculation b) Flocculation
 c) Emulsion d) Sedimentation
- xvi) The potential difference develop when particle settle under the influence of gravity called.
 a) Streaming potential b) Oxidation potential
 c) Reduction potential d) Sedimentation potential
- xvii) Pseudoplastic flow are also known as -----
 a) Shear thining system b) Shear thickening system
 c) Elastic deformation d) Plastic deformation
- xviii) The effect of temperature on the viscosity of a liquid is expressed by -----
 a) Stokes law b) Newtons law
 c) Arrhenius equation d) Michaelis Menten equation
- xix) In flocculated suspension, the rate of sedimentation is -----
 a) Low b) More
 c) Zero d) 50%
- xx) Fluidity is –
 a) Reciprocal of density b) Reciprocal of Surface tension
 c) Reciprocal of Volume d) Reciprocal of Viscosity

2. Solve the following any two.

**10x2
=20**

- i) Define solubility. Enumerate factors affecting solubility. Briefly discuss each one with example.
- ii) Give detail account on Aerosoles.
- iii) Write a note on methods of measuring surface tension.

3. Solve the following **any seven**.

5x7
=35

- i) What is CST ? Describe it with suitable example.
- ii) What is the function of inhaler. Discuss briefly about different types of inhaler.
- iii) Define following terms
 - i) Melting point
 - ii) Freezing point
 - iii) Vaporisation
 - iv) Sublimation
 - v) Deposition
- iv) Write principle and working of Ostwald viscometer.
- v) Explain properties of colloids.
- vi) Write a note on elastic modulus.
- vii) At 20°C the time required for flow of water and organic liquid through Ostwald Viscometer is 45 sec and 18 sec respectively. Suppose density of water and liquid are 0.9982 and 1.17 g/ml respectively. The viscosity of Organic liquid at 20°C is 1.002 centipoise. Calculate viscosity of organic liquid at 20°C.
- viii) Write a note on dipole moment
- ix) What is polymorphism? Discuss it with suitable example.
