

**PARUL UNIVERSITY**  
**PARUL INSTITUTE OF PHARMACY**  
**B.PHARM THIRD SEMESTER ·**

**FIRST INTERNAL THEORY EXAMINATION: 2019-20**

Subject Name: **PHYSICAL PHARMACEUTICS-1**

Subject Code: **BP302T**

Time:

Date: **14-08-2019**

Total Marks: **30**

**Instructions:**

1. Figures to the right indicate full marks.

- Q.1 Multiple Choice Questions: [10]**
- (1) Maximum amount of solute which can dissolve in 100gm of solvent at room temperature is called **01**  
 (a) Solubility (b) Capacity (c) Eligibility (d) Tendency
- (2) Layer that surrounds solute when it is dissolved in solvent is called **01**  
 (a) Solvent layer (b) Solvation layer (c) Solute layer (d) Fatty layer
- (3) Vapour pressure is directly proportional to temperature because of **01**  
 (a) More Kinetic energy (b) Faster particle movement  
 (c) More potential energy (d) Both A and B
- (4) When gas liquefies, molecules lose kinetic energy and experience increase **01**  
 (a) Force of attraction (b) Volume (c) Density (d) Pressure
- (5)  $PV = nRT$  is called as **01**  
 (a) General equation (b) General gas equation  
 (c) Linear gas equation (d) Quadratic gas equation
- (6) Three phase system are in equilibrium at a point on the P-T graph is **01**  
 (a) Critical point (b) Triple Point (c) Single Point (d) Definite point
- (7)  $K_d$  is **01**  
 (a) Dissociation constant (b) Distribution constant  
 (c) Dielectric constant (d) Diffusion constant
- (8) The ability of a compound to crystallize as more than one distinct crystalline species is known as **01**  
 (a) Polymorphism (b) Pseudomorphism (c) Isomorphism (d) Amorphousim
- (9) Number of moles of the solute present in one Kg of the solvent is **01**  
 (a) Molarity (b) Molality (c) Mole fraction (d) Normality
- (10) Optically active substances are the substances which can rotate **01**  
 (a) polarized light (b) plane polarized light  
 (c) plane of plane polarized light (d) angle of polarized light

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2. Make suitable assumptions wherever necessary.

**Q.2** Long Answers: (Any One)

- 1) Define diffusion. Give its types and applications in biological systems. Explain fick's laws of diffusion.
- 2) a) Explain the changes in states of matter with suitable examples.  
b) Explain Raoult's law and real solutions.

**Q.3** Short Answers: (Any Two)

- 1) What are Partially Miscible liquids . Define CST and miscibility temperature. **05**
- 2) Write a note on **05**
  - a) Dielectric constant
  - b) Dipole moment
- 3) Define
  - a) Eutectic mixtures
  - b) Aerosols
  - c) Liquid crystals
  - d) Glassy state
  - e) Optical rotation

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