

**341453(41)**

**B. Pharmacy (Fourth Semester) Examination,  
April-May 2019**

**(PCI Scheme)**

**(Pharmacy Branch)**

**PHYSICAL PHARMACEUTICS-II**

**Theory (BP403T)**

**Time Allowed : Three hours**

**Maximum Marks : 75**

**Note : Answer all the questions. Carefully read the  
internal choice of questions.**

**Multiple Choice Questions 10×1=10**

**Note : Multiple choice question (MCQs) each  
question carries 1 mark. Answer all the  
questions**

**341453(41)**

**PTO**

1. (i) An emulsion within emulsion is designated (✓)
- (a) Oil/water emulsion
  - (b) Water/oil emulsion
  - (c) Oil/water/oil emulsion
  - (d) All of the above
- (ii) Which of the following is related to suspensions
- (a) Brownian movement
  - (b) Laminar flow
  - (c) Stokes law
  - (d) None of these
- (iii) Unit of viscosity is :
- (a) dyne / cm
  - (b) Newton / meter<sup>2</sup>
  - (c) Poise
  - (d) None of the above
- (iv) Gel-sol-gel transformation takes place in :
- (a) Suspension
  - (b) Colloids
  - (c) Thixotropy
  - (d) Emulsions

- (v) Half life is the time required to reduce ..... of its initial concentration :
  - (a) 50%
  - (b) 60%
  - (c) 70%
  - (d) 40%
- (vi) Ostwald viscometer is used to determine :
  - (a) Surface Tension
  - (b) Viscosity
  - (c) Both
  - (d) None
- (vii) HLB scale shows :
  - (a) Hydrogen atoms
  - (b) Hydrophilicity
  - (c) Lipophilicity
  - (d) Both (c) and (d)
- (viii) Grains of sand are example of :
  - (a) Molecular dispersion
  - (b) Colloidal dispersion

- (c) Coarse dispersion
- (d) None
- (ix) Surface Active Agents are :
  - (a) Hydrophilic
  - (b) Lipophilic
  - (c) Both
  - (d) None
- (x) Microemulsion contain globules size range :
  - (a) 0.01  $\mu\text{m}$
  - (b) 0.001  $\mu\text{m}$
  - (c) 0.1  $\mu\text{m}$
  - (d) 1.0  $\mu\text{m}$

2. Define following terms. Attempt each question. 5×2=10

- (a) Thixotropy <http://www.csvtuonline.com>
- (b) Heckle equation
- (c) Solubilisation

[ 5 ]

Colloidal dispersion

Surface Tension

Attempt any **two** questions out of three. Each question is of 10 marks.  $2 \times 10 = 20$

- (i) Define emulsions and discuss various theories of emulsification.
- (ii) Classify colloids and give comparative account of their general properties.
- (iii) Define drug stability and discuss physical and chemical factors influencing the degradation of pharmaceutical products.

4. Attempt any **seven** questions out of nine questions. Each question carries 5 marks.  $7 \times 5 = 35$

- (i) Discuss photolytic degradation and its prevention.
- (ii) Explain deformation of solids and explain Heckle equation.
- (iii) Explain kinetic and electrical properties of colloids.
- (iv) Discuss adsorption at solid interface.

PTO

341453(41)

[ 6 ]

- (v) Explain accelerated stability testing in expiration dating of pharmaceutical dosage forms.
- (vi) Explain any one method of determination of surface and interfacial tension.
- (vii) Write the significance of HLB scale.
- (viii) Discuss Newtonian systems in detail.
- (ix) Explain preservation of emulsions.

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