Dec, 2019

Total No. of printed pages = 4

PY 132301

Roll No. of candidate | | | | | | | | | | |

2019

B.Pharm. 3rd Semester Repeater Examination

PHARMACEUTICS – II (PHY. PHARM – I)

(Old Regulation)

Full Marks – 100 Time – Three hours

The figures in the margin indicate full marks for the questions.

Answer question No. 1 and any *six* from the rest.

1. Answer the following : (10 × 1 = 10)

(i) The solubility of most gases usually ———— with increase in temperature.

(a) Decreases

(b) Increases

(c) Does not change

(d) First increases and then decreases

[Turn over

(ii) The phenomenon in which a substance exists in more than one crystalline forms is known as _____

(iii) The concentration of surfactunt at which it begins to form micelles is known as _____.

(iv) Give an example of eutectic mixture.

(v) What do you understand by the latent heat of fusion?

(vi) Give the Van der Waals equation for real gases.

(vii) What do you understand by the latent heat vaporization?

(viii) Metastable polymorphs can be obtained by which one of the following:

(a) Adsorption

(b) Rapid cooling

(c) Slow cooling

(d) Supersaturation

(ix) When energy is exchanged, but not mass, then such a system is known as:

(a) Closed system

(b) Equilibrium system

(c) Isolated system

(d) Open system

(x) The HLB range for lipophilic surfactant is

(a) 2 to 9

(b) 9 to 16

(c) 16 to 20

(d) above 20

2. Answer the following questions.

(a) Distinguish between the crystalline and amorphous state of matter. (4)

(b) Describe the positive and negative deviations from Raoult's law. (5)

(c) Write a short note on:

(i) Isothermal and adiabatic process (3)

(ii) Process of detergency (3)

3. Answer the following questions. (3×5)

(a) Discuss and deduce the first law of Thermodynamics.

(b) Show that relative vapour pressure lowering is a colligative property.

(c) Explain the mechanism of solubilization.

4. Answer the following questions. (3×5)

(a) Explain the factors influencing the solubility of gases in liquids.

(b) Explain the factors influencing the solubility of solid drugs in liquids.

(c) Describe the importance of entropy in thermodynamics.

5. Answer the following questions.

(a) Give the concept of surface free energy. (5)

(b) Explain the concept of adsorption at the solid surface and give various adsorption isotherms. (10)

6. Answer the following questions.

(a) Explain the phase rule for a one-component system and a two-component system. (10)

(b) Write a few important applications of Polymorphism and Buffers. (2.5+2.5)

7. Write a short note on : (3×5)

(a) Critical temperature and pressure

(b) Zeta potential

(c) Relative humidity.

8. Answer the following questions. (3×5)

(a) Explain the welling phenomena

(b) Explain the mechanism of action of acid and base buffers with suitable examples.

(c) Explain surface free energy and derive an equation to calculate it.

9. Answer the following questions.

(a) What is the partition coefficient? Write its importance. (10)

(b) Define osmosis and osmotic pressure. (5)
