PY 202

B.Pharmacy 11 Semester

Examination, December 20 1 4

Pharmaceutics-II (Physical Pharmacy)

Time : Three Hours

Maximum Marks : 70

Note: i) Answer five questions. In each question part A, B. C compulsory and D part has internal choice.

ii) All parts of each question are to be attempted at one place.

iii) All questions carry equal marks. out of which part A and B (Max.50 words) carry 2 marks, part C

(Max 100 words) carry 3 marks, part D Max.400 words carry 7 marks.

iv) Except numericals, Derivation. Design and Drawing etc.

1. a) Define the term micromeritics.

b) Write the particle dimensions in pharmaceutical disperse systems.

c) Write Edmundson equation for determination of average particle size.

d) Explain the methods for determining surface area of particles.

OR

Write the derived properties of powder.

2. a) Define the terms: solubility, saturated solution.

b) What is phase rule?

c) What are ideal and real solutions?

d) Explain the effect of temperature on solubility of salts.

OR

What is the minimum pH required for the complete solubility of the drug in a stock solution containing 6g of Phenobarbital sodium in 100 ml of a 30% by volume alcoholic solution? (Molecular weight of Phenobarbital sodium is 254, So of Phenobarbital is 0.028. pKa is 7.92 at 25°C).

3 a) Define the term interfacial tension.

b) What is spreading coefficient?

c) Write a note on HLB.

d) What are surfactants? Write the applications of surface active agents.

OR

A sample of chloroform rose to a height of 3.67 cm at 25°C in a capillary tube having an inside radius of

0.01cm. What is the surface tension of chloroform at this temperature? (Density of chloroform is

1.476 g/cm3; g=981 m/s2)

4 a) What is Fiek's First law of diffusion?

b) WriteNo, es and Whitney equation.

c) State Hixson-Crowell cube Root Law.

d) Explain types of Dissolution Test Apparatus USP.

OR

Write a note on diffusion principles in biologic systems.

5. a) Define the terms: rheology, viscosity.
b) What are Newtonian systems?
c) Define plastic flow, pseudoplastic flow, dilatant flow.
d) Explain the principle and working of cup and bot: viscometer.

OR

Write the applications of rheology in pharmacy.

6. a) Define the term complexes.
b) What are inclusion compounds?
c) What do you mean by self association?
d) Classify complexes with suitable examples.

OR

Explain the factors affecting complexation and proteir binding.

7. a) Define the terms: buffer, pH.
b) What are pH indicators?
c) How buffer capacity is calculated?
d) Explain the methods of adjusting tonicity and pH.

OR

Find out the concentration of sodium chloride required to make 1% of boric acid isotonic with blood plasma. (Freezing point depression of 1% boric acid is-O.288°C; Freezing point depression of 1% solution of sodium chloride is -0.576°C).

8. a) Define the term colloids.
b) Classify colloids.
c) Explain the principle of micellization.
d) Explain the optical and electrical properties of colloids.

OR

Write the pharmaceutical applications of colloids.

9. a) Define the terms: multiple emulsions, micro emulsions.
b) Classify semisolid dosage forms.
c) Explain the theory of sedimentation.
d) Write a note on physical stability of emulsions.

OR

Write a note on rheologic properties of semisolids.