Code: BP403T

R19

B.Pharm II Year II Semester (R19) Regular & Supplementary Examinations September 2022

PHYSICAL PHARMACEUTICS – II

Time: 3 hours Max. Marks: 75

PART – A

(Compulsory Question)

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1 Answer the following: (10 X 02 = 20 Marks)

(a) Give the differences between molecular and colloidal dispersions.
(b) Define amphiphilic Colloids.
(c) Explain Newton's law of flow.
(d) What is kinematic viscosity? Give CGS unit of kinematic viscosity.
(e) Define degree of flocculation for pharmaceutical suspension.
(f) How surfactants act as emulsifying agent?
(g) Define volume-surface mean diameter.
(h) What is shape factor? What is shape coefficient for a spherical particle?
(i) Explain Arrhenius equation.
(j) Explain pseudo zero-order kinetics.

PART – B

(Answer any two questions: 02 X 10 = 20 Marks)

2 Describe capillary method for the measurement of viscosity of a Newtonian liquid.

3 Describe microscopic method for the determination of mean particle diameter.

4 (a) Discuss the strategies for preventing the oxidative decomposition of pharmaceutical products.
(b) The half-life of a drug that decomposes by first order is 55 days. Calculate first order rate constant (k_1) and shelf-life ($t_{90\%}$).

PART – C

(Answer any seven questions: 07 X 05 = 35 Marks)

5 Explain settling phenomenon for pharmaceutical suspension using Stoke's law.

6 Give the differences between flocculated and deflocculated suspension.

7 Write a note on "stability of lyophilic colloids".

8 Explain the theory of electrical double layer for colloidal system with a neat sketch.

9 Explain pseudoplastic flow with suitable illustrations.

10 Discuss the procedures for the measurement of thixotropy.

11 Explain various frequency distribution curves.

12 Discuss various packing arrangements of powders.

13 Derive an equation to explain first order kinetics.

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R19

B.Pharm II Year II Semester (R19) Supplementary Examinations March 2022

PHYSICAL PHARMACEUTICS – II

Time: 3 hours Max. Marks: 75

PART – A

(Compulsory Question)

*****

1 Answer the following: (10 X 02 = 20 Marks)

(a) What are micelles?
(b) What is Faraday Tyndall effect?
(c) Define thixotropy.
(d) Define kinematic viscosity.
(e) Define suspension.
(f) What is creaming of emulsion?
(g) Define adsorption and give the types of adsorption.
(h) Define particle number.
(i) What is zero order reaction?
(j) Define half-life.

PART – B

(Answer any two questions: 02 X 10 = 20 Marks)

2 (a) Classify colloids and explain association colloids.
(b) Define viscosity and explain a method of determination of viscosity.

3 (a) Discuss the steps in formulation of a deflocculated suspension.
(b) Explain instabilities of emulsions.

4 (a) Explain the methods of determination of particle size.
(b) What is first order kinetics? Explain.

PART – C

(Answer any seven questions: 07 X 05 = 35 Marks)

5 (a) Give the importance of rheological properties of emulsions in pharmacy.
(b) What are dispersed systems? Classify and explain briefly.

6 (a) What is photolysis? How it can be prevented.
(b) Briefly discuss about derived properties of powders.

7 (a) What are multiple emulsions? Give their advantages.
(b) Explain falling sphere viscometer method with a neatly labelled diagram.

8 (a) What are the various kinetic properties of colloids? Discuss briefly.
(b) Discuss the importance and methods of stabilization of medicinal agents.

9 (a) Explain the methods of determination of order of reactions.
(b) What are adsorption isotherms? Explain about Langmuir adsorption isotherm.

Contd. in page 2

10 (a) Explain emulsion formulation by HLB method.
(b) Define thixotropy and explain its significance in pharmaceutical formulations.

11 (a) Explain optical properties of colloids.
(b) Give the physicochemical factors influencing the degradation of pharmaceutical products.

12 (a) Write the methods of expressing particle size and distribution.
(b) Give the differences between flocculated and deflocculated suspension.

13 (a) Discuss about deformation of solids and its importance in pharmacy.
(b) Briefly discuss electrical double layer in colloids.

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Code: BP403T

R19

B.Pharm II Year II Semester (R19) Regular & Supplementary Examinations September 2021

PHYSICAL PHARMACEUTICS – II

Time: 3 hours Max. Marks: 75

PART – A

(Compulsory Question)

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1 Answer the following: (10 X 02 = 20 Marks)

(a) What are protective colloids?
(b) What is Brownian movement?
(c) Write about Newtonian system.
(d) Define rheology.
(e) What are emulsifying agents? Give examples.
(f) Define suspension.
(g) Define micromeritics.
(h) Define adsorption and give four examples for adsorbents.
(i) Define half life and give the formula for determination of half-life of a first order reaction.
(j) What is oxidation of medicinal compounds? How can we prevent oxidation of pharmaceuticals?

PART – B

(Answer any two questions: 02 X 10 = 20 Marks)

2 (a) Classify colloids and explain lyophilic & lyophobic colloids.
(b) Classify liquids based on their flow properties and explain pseudoplastic system.

3 (a) Explain the formulation of a suspension.
(b) Give the theories of emulsification.

4 (a) Define specific surface and explain the method of determination of particle surface area.
(b) Discuss the advantages and method of accelerated stability testing.

PART – C

(Answer any seven questions: 07 X 05 = 35 Marks)

5 (a) Briefly discuss electrical double layer in colloids.
(b) Discuss about deformation of solids and its importance in pharmacy.

6 (a) Difference between flocculated and deflocculated suspension.
(b) Explain the methods of expressing particle size and distribution.

7 (a) Write about physicochemical factors influencing the degradation of pharmaceutical products.
(b) Discuss the optical properties of colloids.

8 (a) Define thixotropy and explain its significance in pharmaceutical formulations.
(b) Explain emulsion formulation by HLB method.

9 (a) What are adsorption isotherms? Explain about Langmuir adsorption isotherm.
(b) Explain the methods of determination of order of reactions.

Contd. in page 2

10 (a) Give stabilization of medicinal agents.
(b) Briefly discuss about kinetic properties of colloids.

11 (a) Explain falling sphere viscometer method.
(b) What are micro emulsions and multiple emulsions? Give their advantages.

12 (a) What are the properties of powders?
(b) Discuss the photolytic degradation of pharmaceutical products and its prevention.

13 (a) Classify and explain briefly about dispersed systems.
(b) Give the Rheological properties of emulsions.

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