

Printed Pages: 01

Paper Id: 150301

Sub Code: BP403T

Roll No.

--	--	--	--	--	--	--	--	--	--

B PHARM
(SEM IV) THEORY EXAMINATION 2018-19
PHYSICAL PHARMACEUTICS II

Time: 3 Hours

Total Marks: 75

Note: Attempt all Sections. If you require any missing data, choose suitably.

SECTION – A

1. Attempt all questions in brief.

10 x 2 = 20

- a. Define peptization.
- b. Explain Schulze -Hardy rule.
- c. Give applications of plugflow in formulation.
- d. Give example of multipoint viscometer.
- e. Define deflocculated suspension.
- f. What is term Micro-emulsion.
- g. Differentiate between Martin and projected diameter.
- h. What are the disadvantage of microscopic method?
- i. Give Heckel Equation and its importance
- j. Explain the term kinematic viscosity.

SECTION – B

2. Attempt any two of the following:

2x10 = 20

- a. Explain the non-Newtonian fluid on the basis of rheogram, molecular mechanism, mathematical equation and suitable example.
- b. Explain the working principle of Andreasen apparatus with the help of a labelled diagram and also give method for size determination.
- c. Compute the accelerated stability testing for determination of expiration dating of pharmaceutical dosage forms

SECTION – C

3. Attempt any five parts of the following:

7 x 5 = 35

- a. Discuss the electrical properties of colloidal dispersion.
- b. Explain the derived properties of powders
- c. Describe the theory of emulsion.
- d. What is thixotropy. Give its application in depot injection.
- e. Explain the working principle of rotational viscometer with the help of a labelled diagram.
- f. Define zero order reactions. Give equations for determining shelf life and half-life for the same.
- g. Enumerate the difference between flocculated and deflocculated suspensions

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

B PHARM
(SEM-IV) THEORY EXAMINATION 2019-20
PHYSICAL PHARMACEUTICS-II

Time: 3 Hours

Total Marks: 75

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION – A

1. Attempt all questions in brief.

10 x 2 = 20

- a. Define peptization.
- b. Explain Schulze -Hardy rule.
- c. Give two applications of thixotropy in formulation.
- d. Give example of multipoint viscometer.
- e. Define deflocculated suspension.
- f. Give two examples of Cationic and non ionic surfactant.
- g. Differentiate between true density and bulk density.
- h. What are the disadvantages of microscopic method?
- i. Write the unit of specific rate constant of zero order reaction and second order reaction.
- j. Explain the term expiry date and half life of a drug.

SECTION – B

2. Attempt any two of the following:

2x10 = 20

- a. Explain the different categories of non-Newtonian fluid based on the different pattern of rheogram.
- b. Explain the working principle of Andreasen apparatus with the help of a labelled diagram.
- c. Compute the accelerated stability testing for determination of expiration dating of pharmaceutical dosage forms

SECTION – C

3. Attempt any five parts of the following:

7 x 5 = 35

- a. Write about the kinetic & electrical properties of colloidal dispersion.
- b. Explain the optical properties of colloids
- c. Describe the stress, strain and Heckle equation
- d. Write a note on thixotropy.
- e. Explain the working principle of Andreasen apparatus with the help of a labelled diagram.
- f. Define zero order reactions. Give equations for determining shelf life and half-life for the same.
- g. Enumerate the difference between flocculated and deflocculated suspensions



PAPER ID-421533

Printed Page: 1 of 1
Subject Code: BP403TRoll No:

BPHARM
(SEM IV) THEORY EXAMINATION 2021-22
PHYSICAL PHARMACEUTICS II - THEORY

Time: 3 Hours

Total Marks: 75

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.
2. Any special paper specific instruction.

SECTION A

1. Attempt all questions in brief.

10 x 2 = 20

a.	Classify dispersed systems with examples.
b.	Define peptization with example.
c.	State the Law of Flow.
d.	State the Heckel equation and explain each term involved.
e.	State the nature of flocculated and deflocculated suspensions.
f.	Mention the advantages of microemulsions over emulsions.
g.	Define 'cut diameter of a sieve' with suitable example.
h.	Name the parameters involved in the evaluation of flow properties of a pharmaceutical blend.
i.	What do you mean by 'pseudo-zero order kinetics'?
j.	Mention the role of dielectric constant on the chemical degradation of pharmaceutical products.

SECTION B

2. Attempt any two parts of the following:

2 x 10 = 20

a.	Explain the effects of electrolytes, coagulation, and peptization on pharmaceutical colloidal preparations.
b.	Describe in brief the various methods used for the determination of particle size.
c.	Explain the roles of the various physical and chemical factors on the chemical degradation of pharmaceutical products.

SECTION C

3. Attempt any five parts of the following:

7 x 5 = 35

a.	Classify colloids and compare the general properties of colloidal dispersions.
b.	Describe the effects of thixotropy in pharmaceutical formulations, with suitable examples.
c.	Describe the theories of emulsification.
d.	State and explain the evaluation parameters used for characterization of the derived properties of powders.
e.	Explain the steps for determination of order of a chemical reaction.
f.	Mention the working principles and applications of capillary, falling sphere, and rotational viscometers used for the determination of viscosity.
g.	Write a brief note on photolytic degradation of pharmaceutical preparations and its prevention.



PAPER ID-411818

Printed Page: 1 of 1

Subject Code: BP403T

Roll No:

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

BPHARM
(SEM IV) THEORY EXAMINATION 2021-22
PHYSICAL PHARMACEUTICS II – THEORY

Time: 3 Hours**Total Marks: 75****Notes:**

- Attempt all Sections and Assume any missing data.
- Appropriate marks are allotted to each question, answer accordingly.

SECTION-A

Q.1	Attempt All of the following Questions in brief	Marks(10X2=20)
a.	Define the term Micro-emulsion.	
b.	What do you understand by the term peptization?	
c.	Mention two examples of cationic and non-ionic surfactant.	
d.	Differentiate between Martin and projected diameter.	
e.	Explain the term kinematic viscosity.	
f.	What is deflocculated suspension?	
g.	Give applications of plug flow in formulation.	
h.	Discuss the term expiry date and half-life of a drug.	
i.	Give two applications of thixotropy in formulation.	
j.	Give Heckel Equation and its importance.	

SECTION-B

Q.2	Attempt ANY TWO of the following Questions	Marks(2X10=20)
a.	Explain in detail the methods for determining particle size by different methods and its application in Pharmaceuticals.	
b.	Explain the non-Newtonian fluids on the basis of rheogram, molecular mechanism, mathematical equation and suitable example.	
c.	Define first and second order reactions. Give equations for determining shelf life and half-life for the same.	

SECTION-C

Q.3	Attempt ANY FIVE of the following Questions	Marks (5X7=35)
a.	Explain the derive properties of powders.	
b.	Explain the working principle of Anderson apparatus with the help of a labeled diagram.	
c.	Write about the kinetic & electrical properties of colloidal dispersion.	
d.	Write in detail about Particle size distribution with reference to mean particle size calculation.	
e.	Enumerate rheological properties of emulsions and emulsion formulations by HLB method.	
f.	Describe Plastic, elastic deformation and Heckle equation.	
g.	What are formulation of flocculated and deflocculated suspensions. Explain	

--	--	--	--	--	--	--	--	--	--

BPHARM
(SEM IV) THEORY EXAMINATION 2022-23
PHYSICAL PHARMACEUTICS-II

Time: 3 Hours

Total Marks: 75

Note: Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt all questions in brief.

10 x 2 = 20

- (a) Define the term "coacervation" in colloids.
- (b) Write down the Schulze-Hardy rule with an example.
- (c) What is kinematic viscosity?
- (d) What is negative thixotropy?
- e What are multiple emulsions?
- f Define the term HLB.
- g) What is angle of repose?
- (h) Differentiate between true density and bulk density.
- (i) Differentiate between a pseudo-zero order and first-order reaction.
- (j) What do you mean by the term "Photolytic degradation" of a drug?

SECTION B

2. Attempt any two parts of the following:

2 x 10 = 20

- a Illustrate various non-Newtonian systems including plastic, pseudoplastic, dilatant, and thixotropy in pharmaceutical formulations with proper rheograms.
- b) Explain different types of deformation of solids, elastic modulus, and Heckel's equation in detail.
- (c) Describe in detail about the methods for determining surface area of particles.

SECTION C

3. Attempt any five parts of the following:

5 x 7 = 35

- (a) Illustrate the optical and kinetic properties of colloidal dispersion.
- (b) Explain any one method for determination of viscosity of Newtonian systems in detail.
- c Discuss the various signs of instability in an emulsion and methods for its preservation.
- d) Differentiate between flocculated and deflocculated suspensions and methods for formulating any suspension.
- e Describe the working principle and method for particle size determination using the Andreasen pipette apparatus with its labelled diagram.
- (f) Derive the equation for zero-order reaction and determine the half-life and shelf life of any zero-order reaction using the same equation.
- (g) Explain the method involved in the accelerated stability testing for determination of expiration dating of any pharmaceutical dosage form.



PAPER ID-411254

Subject Code: BP403T

Roll No:

BPHARMA
(SEM IV) THEORY EXAMINATION 2023-24
PHYSICAL PHARMACEUTICS II - THEORY

TIME: 3 HRS**M.MARKS: 75**

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.
SECTION A

1. Attempt all questions in brief.

10 x 2 = 20

a.	Define peptization.
b.	Write the importance of pseudo plastics
c.	Define young's modulus.
d.	Write some factors affecting stability of emulsions.
e.	Define dynamic viscosity.
f.	Define porosity.
g.	How dielectric constant affects drug stability.
h.	Write the principle of rotational viscometer.
i.	Write the effect of temperature on viscosity.
j.	Write the optical properties of colloids.

SECTION B

2. Attempt any two parts of the following:

2 x 10 = 20

a.	Why colloidal dispersions show electrical properties? Describe some electrical properties of colloids.
b.	How particle size distributions influence the behavior and properties of colloidal systems? Compare between monodisperse and polydisperse.
c.	Enlist the physical factors influencing the chemical degradation of pharmaceutical products.

SECTION C

3. Attempt any five parts of the following:

7 x 5 = 35

a.	Explain the kinematic viscosity; How the kinematic viscosity can be measured?
b.	Define deflocculated suspension. Write the properties and method of preparation of deflocculated suspension.
c.	Explain the derived properties of powders.
d.	Write the way to stabilize the medicinal agents against oxidation.
e.	Discuss the accelerated stability testing for pharmaceutical dosage forms.
f.	Define micro emulsion; Write the types and components of micro emulsions.
g.	Compare between plastic and elastic deformation of solids.



PAPER ID-311982

Roll No:

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Printed Page: 1 of 1

Subject Code: BP403T

BPHARM
(SEM IV) THEORY EXAMINATION 2024-25
PHYSICAL PHARMACEUTICS II – THEORY

TIME: 3 HRS**M.MARKS: 75**

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A**1. Attempt all questions in brief.****10 x 2 = 20**

a.	State the electrical properties of the colloidal dispersions.
b.	Define and mention the units of kinematic viscosity.
c.	State the significance of plastic and elastic deformation.
d.	Define Schulze rule
e.	Name the parameters involved in the evaluation of flow properties of a pharmaceutical blend.
f.	What do you mean by 'pseudo-zero order kinetics'?
g.	Differentiate flocculated and deflocculated suspensions.
h.	What do you mean by 'mean particle size' and 'specific surface of particles'?
i.	Define energy of activation
j.	Define peptization with example

SECTION B**Attempt any two parts of the following:****2 x 10 = 20**

a.	Enumerate the methods for determination of particle size. Explain working principle of coulter counter with labelled diagram
b.	What is accelerated stability testing? Narrate its role in determining the expiry period of a dosage formulation
c.	Explain the roles of the various physical and chemical factors on the chemical degradation of pharmaceutical products.

SECTION C**3. Attempt any five parts of the following:****7 x 5 = 35**

a.	Explain the coulter counter method for determining the particle volume
b.	State and explain the comparative account of the general properties of colloidal dispersions.
c.	State Heckel equation and explain its pharmaceutical significance.
d.	Explain the steps for determination of order of a chemical reaction.
e.	Classify emulsion. Explain the different theories of emulsion.
f.	Define true density. Discuss true density determination using helium displacement method
g.	Give the principle, working and applications of cup and bob viscometer with clean and neat diagram.



Paper ID : 261894

Printed Page: 1 of

Subject Code:BP403T

Roll No:

BPHARM

(SEM. IV) THEORY EXAMINATION 2025-26
PHYSICAL PHARMACEUTICS II – THEORY

TIME: 3 HRS

M.MARKS: 75

- Note:** 1. Attempt all Sections. If you require any missing data, then choose suitably.
2. Any special paper-specific instruction.

SECTION A

1. Attempt all questions in brief. 10 x 2 = 20

a.	Classify dispersed systems with examples.
b.	State the effects of electrolytes on colloidal dispersions.
c.	State the law of flow.
d.	Differentiate between plastic and pseudoplastic flows.
e.	Enlist the interfacial properties of suspended particles.
f.	Define multiple emulsions and mention their uses.
g.	Define specific surface and porosity of powders.
h.	Name the factors determining the flow properties of powders.
i.	Define pseudo-zero reaction with an example.
j.	Discuss the effect of the dielectric constant on the reaction rate.

SECTION B

2. Attempt any two parts of the following: 2 x 10 = 20

a.	Explain the effects of coacervation and peptization on the stability of colloidal dispersions.
b.	Derive the Heckel equation and state its significance and limitations.
c.	Explain the stabilization issues for medicinal agents due to hydrolysis and oxidation and suggest solutions.

SECTION C

3. Attempt any five parts of the following: 7 x 5 = 35

a.	Elaborate on the general characteristics of dispersed systems with examples.
b.	Outline the principle and working of the falling Sphere viscometer with a neat schematic diagram.
c.	Explain the significance of plastic and elastic deformation of solids.
d.	Describe the methods of formulation of flocculated and deflocculated suspensions.
e.	State and explain the rheological properties of emulsions and emulsion formulation by the HLB method.
f.	Explain the equations and the terms involved, used for particle size analysis.
g.	Discuss the significance of accelerated stability testing in expiration dating of pharmaceutical dosage forms.