S. Y. B. Pharm. (2024)	School of Pharmaceutical Sciences	Department: Pharmacy
Course Code: BP403T	PHYSICAL PHARMACEUTICS-II	Semester – IV
Date: 25 MAY 2024 Day: Sat Time: 02:00PM To 05:00PM	Examination: End Semester	Max Marks: 75

Instructions:

1) All questions are compulsory.
2) Draw a neat, labeled diagram if necessary.

Q. 1	Objective Type Questions (10 X 2)	Marks 20	Blooms Level	CO
a)	Enlist the methods of preparation of lyophobic colloids.	2	L1	CLO1, CLO2
b)	Differentiate between molecular dispersions and colloidal dispersions.	2	L4	CLO2
c)	Defend the statement: plug flow is not observed in cone and plate viscometer	2	L1, L5	CLO2
d)	Illustrate the stress-stain relationship for materials undergoing deformation with the help of suitable graph.	2	L2, L5	CLO2
e)	Suggest the preventive measures for instability of emulsions.	2	L2	CLO1, CLO5
f)	Enlist the factors influencing physical stability of suspensions.	2	L1	CLO1, CLO5
g)	Describe the applications of bulk density.	2	L2	CLO3
h)	Define specific surface and mention the methods of their determination.	2	L1	CLO3
i)	Memorize the formulae for determining the half-life of first and second order reaction.	2	L1	CLO4
j)	Define thixotropy. Draw a thixotropic curve of pseudoplastic flow.	2	L1	CLO2

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Q. 2	Long Answers (Answer 2 out of 3)	Marks 20	Blooms Level	CO
a)	Write a note on flocculation in structured vehicles in suspensions. Discuss the theories of emulsification.	10	L2, L6	CLO1, CLO2
b)	Enlist the different ways to determine the particle size and then explain the construction, working principle, and applications of any two methods in detail.	10	L1, L2, L5, L6	CLO3
c)	Define order of reaction and pseudo- order reaction. Deduce the equations for determining the specific reaction rate constant, half-life, and shelf life for zero order with suitable examples.	10	L1, L5	CLO4
Q. 3	**Short Answers (Answer 7 out of 9)**	**Marks 35**	**Blooms Level**	**CO**
a)	Explain the concept of DLVO theory with energy curves. How this theory is applied in stabilizing the colloidal dispersion.	5	L1, L2, L5, L6	CLO1, CLO5
b)	Define Gold Number. Explain in detail protective colloidal action of colloids with suitable examples.	5	L1, L2, L5	CLO1
c)	Explain the plastic and pseudoplastic flow curves with suitable examples.	5	L1, L2	CLO2
d)	With relevant mathematical equation, give the construction, working and applications of cup and bob viscometer.	5	L3, L6	CLO2
e)	Define suspension and physical stability in suspensions. Compare the characteristics of different types of suspensions.	5	L1, L2, L4, L5	CLO1, CLO5
f)	Define true density and explain the method of its determination with the help of neat, labelled diagram.	5	L1, L2, L5	CLO2, CLO3
g)	Define angle of repose. Mention the reasons for poor flow and suggest the methods to improve the same.	5	L1, L5, L6	CLO3
h)	Write a note on accelerated stability studies.	5	L5	CLO4
i)	Explain the oxidative decomposition of pharmaceutical preparations with suitable examples. Mention the measures to prevent the same.	5	L2, L5	CLO5

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