UPES
End Semester Examination, May 2024

Course: Physical Pharmaceutics II	**Semester : IV**
Program: B. Pharm	**Duration : 03 Hours**
Course Code: BP 403T	**Max. Marks: 75**

Instructions: Attempt all the sections.

SECTION A
(20Qx1M=20 Marks)

S. No.		Marks	COs
Q. 1.	Define zeta potential.	1	CO1
Q. 2.	Name any two optical properties of colloidal dispersion.	1	CO1
Q. 3.	What is CMC?	1	CO1
Q. 4.	Define peptization.	1	CO1
Q. 5.	_____ viscometer is used to determine the viscosity of Non-Newtonian fluids.	1	CO2
Q. 6.	Define rheology.	1	CO2
Q. 7.	A coarse suspension has a size range from _____ to _____mm.	1	CO2
Q. 8.	What is the significance of yield value in plastic flow rheogram?	1	CO2
Q.9.	Give one example of each natural and industrial processed emulsion.	1	CO3
Q. 10.	Name any two structured vehicles.	1	CO3
Q. 11.	Define kinematic viscosity with mathematical expression.	1	CO3
Q. 12.	Give any two uses of dispersibility in pharmaceutical preparations.	1	CO3
Q. 13.	Range of angle of repose for powdered material showing poor flow property is from _____to _____.	1	CO4
Q. 14.	Name different distribution curves used to analyze the size distribution of powders.	1	CO4
Q. 15.	What is Carr's Index?	1	CO4
Q. 16.	Name instrument used to evaluate true density.	1	CO4
Q. 17.	Name three Hiestand compaction indices.	1	CO5
Q. 18.	State the Heckel equation.	1	CO5
Q. 19.	A radioactive decay process is considered to follow …………order reaction.	1	CO5

Q. 20.	If the rate of reaction does not depend upon the initial concentration of reactant, the order of reaction is _____.	1	CO5

SECTION B (20 Marks)
(2Qx10M=20 Marks)

Attempt 2 Question out of 3

Q. 1.	a) Explain the concept of DLVO theory with energy curves. b) Explain how DLVO theory applied in stabilizing the colloidal dispersion.	5 5	CO1
Q. 2.	State principle, construction, working, application, advantages, and disadvantages of falling sphere viscometer.	10	CO2
Q. 3.	Explain the methods involved in the determination of the surface area of a powdered sample.	10	CO5

SECTION-C (35 Marks)
(7Qx5M=35 Marks)

Attempt 7 Question out of 9

Q. 1.	Differentiate between lyophobic and lyophilic colloidal systems.	5	CO1
Q. 2	Write a note on any two time-independent non-Newtonian fluids with a graphical representation for each.	5	CO2
Q. 3.	Define rheology. Classify Newtonian system.	5	CO2
Q. 4.	Give a difference between flocculated and deflocculated suspension.	5	CO3
Q. 5.	Emulsions are thermodynamically unstable. Why?	5	CO3
Q. 6.	Define micromeritics. State its significance in pharmaceutical product development.	5	CO4
Q. 7.	Write a note on derived properties of powder.	5	CO4
Q. 8.	Derive the equation for first order reaction showing that the half-life is independent of the concentration.	5	CO5
Q.9.	Write a note on various chemical factors influencing degradation of pharmaceutical products.	5	CO5