Total No. of Questions: 3 *Total No. of Printed Pages:2*

Enrollment No.....

Faculty of Pharmacy
End Sem Examination May-2024
PY3CO15 Physical Pharmaceutics -II

Programme: B. Pharm. Branch/Specialisation: Pharmacy

Duration: 3 Hrs. **Maximum Marks: 75**

Note: All questions are compulsory. Internal choices, if any, are indicated. Assume suitable data if necessary. Notations and symbols have their usual meaning.

Q.1	i.	Differentiate dispersions as per size.	**2**
	ii.	Differentiate Lyophilic, Amphiphilic and Lyophobic colloids.	**2**
	iii.	Write Heckel equation.	**2**
	iv.	Enlist types of deformations of solids.	**2**
	v.	Define micro-emulsion and multiple-emulsion.	**2**
	vi.	Write briefly any two methods to identify type of emulsion.	**2**
	vii.	How will you measure Angle of Repose for given powder?	**2**
	viii.	Define types of particle diameter as per microscopic method.	**2**
	ix.	How kinetics of first order differs from zero-order reaction rate?	**2**
	x.	What you mean by accelerated stability study?	**2**
Q.2		Attempt any two:	
	i.	Write a note on Optical and Kinetic properties of Colloids.	**10**
	ii.	Classify Rheometers and describe principle and working of Ostwald's viscometer and rotational rheometer.	**10**
	iii.	(a) Discuss the effect of Electrolytes on colloids.	**5**
		(b) Give an overview of types of flow as per Rheology.	**5**
Q.3		Attempt any seven: Two questions from each section is compulsory.	
		Section – A	
	i.	Differentiate flocculated and deflocculated suspensions.	**5**
	ii.	Describe stability issues in emulsions.	**5**
	iii.	What are approaches to improve stability of suspension?	**5**

P.T.O.

Section - B

iv.	Write a brief note on particle size determination by sedimentation method.	**5**
v.	Explain bulk density, tapped density and porosity of powder.	**5**
vi.	Describe particle volume measurement by Coulter counter method.	**5**

Section – C

vii.	Enlist factors affecting stability of pharmaceuticals and approaches to improve it.	**5**
viii.	Discuss estimation of shelf-life using accelerated condition of temperature.	**5**
ix.	Write a note on photo-stability studies as per ICH guidelines.	**5**

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Marking Scheme

Physical Pharmaceutics -II (T) - PY3CO15 (T)

Q.1	i)	Differentiate dispersions as per size.	(As per explanation)	**2**
	ii)	Differentiate …… colloids.	(As per explanation)	**2**
	iii)	Equation Explain density porosity concepts	1 Mark, 1 Mark	**2**
	iv)	Types of …… formulation.	(As per explanation)	**2**
	v)	Micro-emulsion ……-emulsion.	(As per explanation)	**2**
	vi)	Any two methods …. type of emulsion.	(As per explanation)	**2**
	vii)	Measure ……..given powder	(As per explanation)	**2**
	viii)	Types …….. method.	(As per explanation)	**2**
	ix)	Knetics of ….. reaction rate	(As per explanation)	**2**
	x)	Mean by accelerated stability study	(As per explanation)	**2**

Q.2	Attempt any two:			
	i.	Optical Properties Kinetic Properties –	5 Marks 5 Marks	**10**
	ii.	Classify – Ostwald's– Rotational -	2 Mark 4 Marks 4 Marks	**10**
	iii.	Effect of electrolytes ..example –	5 Marks	**5**
		Newtonian Non-Newtonian	2.5 Mark, 2.5 Marks	**5**

Q.3	Attempt any seven: Two questions from each section is compulsory.			
	i.	Differentiate flocculated vs deflocculated suspension.	(As per explanation)	**5**
	ii.	Enlist – Any Two	1 Marks (2 Marks*2)	**5**

iii.	Brief about types of instabilities – Any two approach in detail with reasons		1 Marks (2 Marks *2)	**5**

Section – B

iv.	.Concepts – Method – Stoke's Law		2.5 Marks, 2.5 Marks	**5**
v.	Density Porosity		3 Marks 2 Marks	**5**
vi.	Principle – Method – Figure –		2 Marks 2 Marks, 1 Mark	**5**

Section – C

vii.	Enlist Factors – Approaches –		2 Marks, 3 Marks	**5**
viii.	Discuss estimation of shelf-life …. temperatures. –		(As per explanation)	**5**
ix.	Photo-stability … guidelines.		(As per explanation)	**5**

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