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

Enrollment No.....

Faculty of Pharmacy

End Sem (Even) Examination May-2022

PY3CO15 Physical Pharmaceutics -II

Programme: B. Pharma Branch/Specialisation: Pharmacy

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

Note: All questions are compulsory. Internal choices, if any, are indicated.

Q.1
- i. The Concentration range of a surfactant at which micelle starts to form is known as…… **2**
- ii. …….. is the State in which flocculation (aggregation) and settling of the dispersed particles is observed. **2**
- iii. …….is the science that deals with the flow of liquids and the deformation of solids. **2**
- iv. Thixotropy is a ……... dependent Non-Newtonian phenomena. **2**
- v. Diluted suspensions may contain solids in about ……. % W/V. **2**
- vi. Micro emulsions contain globules of size about ……. micrometre. **2**
- vii. One micrometre is equal to …… millimetre. **2**
- viii. Particle size in the range of ……. micrometre can be measured by optical microscopy. **2**
- ix. The ability of a pharmaceutical product to retain its physical, chemical, microbiological and biopharmaceutical properties within the specified limits throughout the shelf life is known as …..... **2**
- x. Shelf life is the time required to reduce the concentration of the reactant up to …….. % of its initial concentration. **2**

Q.2 Attempt any two:
- i. Describe different types of colloids and their properties with example. **10**
- ii. (a) Explain Deformation of Solids with suitable examples. **10**
  (b) Write a note on multipoint viscometer.

P.T.O.

- iii. (a) Explain method of preparation of lyophobic colloids. **5**
  (b) Differentiate between Newtonian and Non - Newtonian systems with suitable examples. **5**

Q.3 Attempt any seven: Two questions from each section are compulsory.

Section - A
- i. Describe theory of sedimentation of suspension. **5**
- ii. Give the classification of emulsion. **5**
- iii. Describe different identification tests for emulsions. **5**

Section - B
- iv. Describe any two particle size determination methods. **5**
- v. (a) Define bulk & true density. **5**
  (b) Explain liquid displacement method.
- vi. Write the principle of coulter counter used to determine particle volume with a neat, labelled diagram. **5**

Section - C
- vii. (a) Define Drug Stability. Give the reason why stability studies are necessary. **5**
  (b) Write about types of stability.
- viii. Explain accelerated stability studies. Give its limitations. **5**
- ix. Differentiate between zero and first order reactions with suitable examples. **5**

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Marking Scheme
PY3CO15 Physical Pharmaceutics -II

Q.1	i.	Critical micelle concentration or CMC		**2**
	ii.	Coagulation or Precipitation or Aggregation		**2**
	iii.	Rheology		**2**
	iv.	Time		**2**
	v.	<5%		**2**
	vi.	0.01 micrometre or µ		**2**
	vii.	10^{-3} or 0.001		**2**
	viii.	0.2 - 100 micrometre or µ		**2**
	ix.	Drug Stability		**2**
	x.	90 %		**2**
Q.2		Attempt any two:		
	i.	Types of colloids with examples	5 marks	**10**
		Properties of colloids	5 marks	
	ii.	(a) Deformation of Solids with suitable examples	5 marks	**10**
		(b) Multipoint viscometer		
		Cup plate	2 marks	
		Cone Plate	2 marks	
		Diagram	1 mark	
	iii.	(a) Dispersion Methods	2.5 marks	**5**
		Condensation Methods	2.5 marks	
		(b) Four difference (1 mark * 4)	4 marks	**5**
		Suitable examples	1 mark	
Q.3		Attempt any seven: Two questions from each section are compulsory.		
		Section – A		
	i.	Particle size	1 mark	**5**
		Viscosity of medium	2 marks	
		Density of medium	2 marks	
	ii.	Oil-in-Water (O/W) Water-in-Oil (W/O) Coarse emulsion	2.5 marks	**5**
		Micro and Multiple emulsion / Fine	2.5 marks	
	iii.	Dye Solubility Test	1 mark	**5**
		Dilution Test	1 mark	
		Conductivity Test	1 mark	
		Filter Paper Test	1 mark	
		Fluorescence Test	1 mark	
		Section - B		
	iv.	Optical Microscopy or Sieving Methods	2.5 marks	**5**
		Sedimentation Method / Conductivity Method	2.5 marks	
	v.	Definition of bulk & true density	2 marks	**5**
		Liquid displacement method	3 marks	
	vi.	Principle of coulter counter	3 marks	**5**
		Diagram	2 marks	
		Section - C		
	vii.	Definition	1 mark	**5**
		Reason	2 marks	
		Types	2 marks	
	viii.	Explanation of Accelerated stability studies	3 marks	**5**
		Limitations	2 marks	
	ix.	Differentiation	3 marks	**5**
		Examples and Graph	2 marks	

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