

II B. Pharmacy I Semester Regular/Supplementary Examinations, February/March - 2022 PHYSICAL PHARMACEUTICS-I

Time:	hours Max.	Marks: 75
	 Note: 1. Question paper consists of three parts (Part-I, Part-II & Part-I 2. Answer ALL (Multiple Choice) Questions from Part-I 3. Answer any TWO Questions from Part-III 4. Answer any SEVEN Questions from Part-III 	II)
	<u>PART –I</u>	
. i)	Surfactants are characterized by the presence of	(1M)
	a) water solubilizing and fat solubilizing groups in the same molecule	
	b) only negative charges	
	c) only positive charges	
	d) d. none of the above	
ii)	The pH of pharmaceutical buffer system can be calculated by	(1M)
	a) pH partition theory	
	b) Noyes whitney law	
	c) Henderson-Hasselbaltch equation	
	d) Michalis Menten Equations	
iii)	All of the following physicochemical constants are useful in predicting the	(1M)
	solubility of a drug except	
	a) Dielectric constants	
	b) pH of a solution	
	c) Valency	
	d) pKa of the drug	
iv)	The colligative property are related to the	(1M)
	a) Total number of solute particles	
	b) pH	
	c) Number of ions	
	d) Number of ingredients	
V)	As the temperature increases, the surface tension	(1M)
	a) increases	
	b) decreases	
	c) no change	
• \	d) none of the above	(1) ()
vi)	Unit of surface tension is	(1M)
	a) dyne/meter	
	b) dyne/cm	
	c) cc/cm	
••、	d) none of the above	(1) ()
vii)	In plastic system, below yield value, the apparent viscosity is	(1M)
	a) lower	
	b) higher	
	c) equal	
、	d) infinite	/1 1 4 \
viii)	Two solutions are said to be isotonic if they exert same	(1M)
	a) viscosity b) surface tension	
	b) osmotic pressure d) none of the above	

1 of 3

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ix)	Buffer index can be defined as the r	atio of the increment of strong base/acid to the	(1M)
	a) change in pH		
	b) change in viscosity		
	c) change in osmotic pressure		
	d) none of the above		
x)	Toxicity is measured on the basis of	properties	(1M)
	a) pharmacological		
	b) pharmaceutical		
	c) Rheological		
	d) Colligative		
xi)	Dissolution is affected by		(1M)
	a) surface area		
	b) viscosity		
	c) temperature		
	d) all of the above		
xii)	Addition of alcohol ln to the hydrop	hilic colloid leads to	(1M)
	a) crystallization		
	b) hydration		
	c) precipitation		
	d) stabilisation		
xiii)	Solubility of gases increases with de	ecrease in	(1M)
	a) Mass		
	b) Volume		
	c) Temperature		
	d) Pressure		
xiv)	Solubility depends upon		(1M)
	a) Temperature		
	b) Solute		
	c) Solvent		
	d) All of them		
xv)		ded to saturate 100g of water is defined for	(1M)
,	a) Solubility	C	
	b) Volatility		
	c) Polarity		
	d) All of them		
xvi)	Thermodynamically system is stable	e when surface free energy is	(1M)
,	a) Maximum	23	· · ·
	b) Minimum		
	c) Varies		
	d) Hundred		
xvii)	pH + pOH = ?		(1M)
)	a) 10		()
	b) 7		
	c) 14		
	d) 7.2		
xviii)	Fick's law is used for study of		(1M)
)	a) Dissolution rate	- b) Disintegration rate	()
	c) Dissociation rate	d) Diffusion rate	
	,		

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xix)	The pressure of a fixed amount of gas at a constant temperature is inversely	(1M)	
	proportional to the volume of the gas is called as		
	a) Boyle's Law		
	b) Charles law		
	c) Gay lusacs law		
	d) Avogadros law		
xx)	An Aerosol is	(1M)	
	a) A Suspension of fine particles or droplets		
	b) A Pure gas filled in container		
	c) A Liquid filled in container		
	d) A mixture of two immiscible liquids only filled in container		
<u>PART –II</u>			

2.	a)	Write about different types of complexes.	(5M)
	b)	Explain any one method of complex analysis.	(5M)
3.	a)	Derive an expression for Langmuir adsorption Isotherm.	(5M)
	b)	Discuss any one method for determination of Surface Tension.	(5M)
4.	a)	Define Solubility and list out the factors influencing solubility of gases in liquids.	(5M)
	b)	State and discuss about distribution law and write its limitations.	(5M)

PART -III

5	Discuss the various methods of expressing concentration in solubility of drugs.	(5M)
6	Explain buffer capacity and give its pharmaceutical significance.	(5M)
7	What are ideal and real solutions using Raoult's law and discuss its limitations.	(5M)
8	Discuss Protein binding of drugs with suitable examples.	(5M)
9	Define and describe the concept of HLB system along with its limitations.	(5M)
10	Explain polymorphism and its significance in pharmaceutical formulations with Suitable examples.	(5M)
11	Describe any one method to adjust the tonicity of solutions.	(5M)
12	Write a note on refractive index and dissociation constant and discuss their applications.	(5M)
13	Write about diffusion principles in biological systems.	(5M)