Name	MIDES			
Enroli	ment No:			
	UPES			
	End Semester Examination, December 2023			
Cours	se: Physical Pharmaceutics I Semester:	III		
_	Program: B. Pharm. Time: 03 h			
	se Code: BP302T Max. Mar	·ks: 75		
Instru	sections: All the sections are compulsory. SECTION A			
	(20Qx1M=20 Marks)			
S.		Marks	COs	
No.				
Q 1	"At constant temperature and in very dilute solutions, the concentration of dissolved	1	CO1	
	gas is proportional to partial pressure of gas above the solution at equilibrium". This			
	is the statement of			
	A. Henry's law C. Raoult's law D. Dalton's law			
Q 2	Active diffusion occurs in the direction of	1	CO1	
	A. Temperature gradient B. Concentration gradient			
	C. Against Concentration gradient D. Potential difference gradient			
Q 3	For weak bases, when pH of the solution is 2 units less than pKa, the % ionization of	1	CO1	
	weak bases is%.			
	A. 50 B. 90.9 C. 99.9 D. 99			
Q 4	The solubility of partially miscible liquids are influenced by	1	CO1	
	A. pH B. Temperature			
_	C. Pressure D. Time			
Q 5	Which of the following instruments is used to determine optical activity of substance?	1	CO2	
	A. pH meter B. Polarimeter			
0.6	C. Conductometer D. Stalagmometer	4	COA	
Q 6	When iodine crystals are heated, they undergo	1	CO2	
	A. Evaporation B. Sublimation			
Q 7	C. Liquefaction D. Dispersion Freezing point depression is an example of properties.	1	CO2	
Q /		1	COZ	
	A. Additive B. Constructive D. Colligative			
Q 8	C. Optical D. Colligative The collisions exhibited by gas particles are completely non-elastic.	1	CO2	
~ u	A. True B. False	•		
Q 9	The surface of the water in contact with the glass wall is	1	CO3	
	A. Convex B. Plane			
	C. Concave D. Information is not sufficient to answer			

Q 10	is characterized by low heat of adsorption.	1	CO3
	A. Physical Adsorption B. Chemical Adsorption		
	C. Desorption D. All the above		
Q 11	Define Adsorption.	1	CO3
Q 12	Which of the following statements is not correct regarding surface tension?	1	CO3
	 A. The unit of surface tension is erg/cm. B. The shape of water droplet is spherical due to surface tension. C. Surface tension of water is less than ethanol at room temperature. D. Surface tension exists due to cohesive forces among liquid molecules. 		
Q 13	Warfarin binding site of suman serum albumin is known as binding site. A. Site I B. Site II C. Site III D. Site IV	1	CO4
Q 14	Clathrate is a complex. A. Inorganic B. Charge transfer C. Inclusion D. Hydrogen bonded	1	CO4
Q 15	Ethylene diamine tetra-acetate is a hexadentate chelating agent. A. True B. False	1	CO4
Q 16	Co-ordination number is A. The number of acceptor atoms bonded to donor atom. B. The number of donor atoms bonded to central atom. C. The number of sites on donor atoms bonded to central atom. D. The number of covalent bonds donors can form with central atom.	1	CO4
Q 17	Which of the following methods is used to adjust tonicity of the pharmaceutical formulations? A. Addition of surfactant C. Boiling point depression D. None of the above	1	CO5
Q 18	The solutions that possess the tendency to resist change in their pH upon addition of small quantities of an acid or alkali are known as A. Acid B. Base C. Neutral solution D. Buffer solution	1	CO5
Q 19	Enlist any two biological buffer solutions.	1	CO5
Q 20	Which of the following equations is used to calculate the pH of buffer system after addition of small amount of alkali or base?	1	CO5
	A. Henderson-Hasselbalch equation C. Equation for Fick's first law D. Buffer solution		
	SECTION B (20 Marks)		
	(2Qx10M=20 Marks)		
Q 1	Attempt 2 Question out of 3 Write short note on: (a) biological buffer solutions (b) buffer capacity	5+5	CO5

Q 2	(a) Explain the construction and working of Abbe's refractometer.	6+4	CO2
	(b) Enlist the properties of gases.		
Q 3	(a) Describe any one method for determination of HLB value.	5+5	CO3
	(b) Write a short note on type I and II adsorption isotherms.		
	SECTION-C (35 Marks)		
	(7Qx5M=35 Marks)		
	Attempt 7 Question out of 9		
Q 1	Explain the method for determination of solubility of a drug.	5	CO1
Q 2	What is the pH of a solution? Discuss any one methods of pH determination.	1+4	CO5
Q 3	Summarize the applications of surface-active agents in pharmacy.	5	CO3
Q 4	What is distribution co-efficient and explain Nernst distribution law.	5	CO1
Q 5	Tetracycline is not administered with milk. Justify the statement by identifying the	5	CO4
	process and providing reason.		CO4
Q 6	What are the colligative and additive properties of the substances?	5	CO2
Q 7	Differentiate ideal and real solutions.	5	CO1
Q 8	Explain aromatic complexes with example.	5	CO4
Q 9	Illustrate with proper figure the use of molecular sieves to separate the mixture of	5	CO4
	gases.		