



Q 10	_____ is characterized by low heat of adsorption. A. Physical Adsorption                      B. Chemical Adsorption C. Desorption                                      D. All the above	1	CO3
Q 11	Define Adsorption.	1	CO3
Q 12	Which of the following statements is not correct regarding surface tension? 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.	1	CO3
Q 13	Warfarin binding site of human 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                      B. Freezing point depression 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? A. Henderson-Hasselbalch equation        B. Bernoulli's equation C. Equation for Fick's first law                D. Buffer solution	1	CO5
<b>SECTION B (20 Marks)</b> <b>(2Qx10M=20 Marks)</b> <b>Attempt 2 Question out of 3</b>			
Q 1	Write short note on: (a) biological buffer solutions (b) buffer capacity	5+5	CO5

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