

TELANGANA UNIVERSITY
S.S.R. DEGREE COLLEGE, NIZAMABAD (C.C:5029)
V SEMESTER INTERNAL ASSESSMENT II EXAMINATIONS
CHEMISTRY QUESTION BANK

I. Multiple choice questions.

1. Batch extraction [a]
 - a. $K_D > 1$
 - b. $K_D < 1$
 - c. $K_D = 1$
 - d. None
2. Craign-counter current extraction is [c]
 - a. $K_D < 1$
 - b. $K_D > 1$
 - c. $K_D = 1$
 - d. $K_D \neq 1$
3. Who is invested chromatography technique [a]
 - a. M-swelt
 - b. Gold smith
 - c. Mosley
 - d. None
4. Write the example of solid liquid chromatography [d]
 - a. Column
 - b. TLC
 - c. Ion exchange
 - d. All
5. Writhe the example of liq-liq chromatography [c]
 - a. Paper
 - b. HPLC
 - c. a & b
 - d. Gas
6. Silica is used as [a]
 - a. Stationary phase
 - b. Mobile phase
 - c. a & b
 - d. None
7. Ether is used as [b]
 - a. Stationary phase
 - b. Mobile phase
 - c. a & b
 - d. None
8. Continuous extraction is [d]
 - a. $K_D < 1$
 - b. $K_D > 1$
 - c. $K_D = 1$
 - d. $K_D \neq 1$
9. Alumina is used as [a]
 - a. Stationary phase
 - b. Mobile phase
 - c. a & b
 - d. None
10. In which chromatograph is used as watmann paper as a stationary phase [c]
 - a. TLC
 - b. Column
 - c. Paper
 - d. Gas
11. In gas chromatography which of the following used as stationary phase chromatography [c]
 - a. Ar
 - b. He
 - c. Ne
 - d. Kr
12. Which of the following are is used as a stationary phase in column chromatography [d]
 - a. Al_2O_3
 - b. $SiO_2 \cdot H_2O$
 - c. $CaCO_3$
 - d. a & b
13. In action exchange resin, which of the following one in column chromatography [b]
 - a. Anion
 - b. Cation
 - c. Free radicals
 - d. a & b
14. How many types of paper chromatography [b]
 - a. 4
 - b. 3
 - c. 2
 - d. 5
15. Which of the following methods used to separate the mixtures to individual solvents [d]
 - a. TLC
 - b. HPCL
 - c. Gas
 - d. b & c
16. Which of the following method is used when $K_D > 1$? [a]
 - a. Batch extraction
 - b. continuous extraction
 - c. counter extraction
 - d. All
17. Which is used as a stationary phase [c]
 - a. Al_2O_3
 - b. $SiO_2 \cdot H_2O$
 - c. a & b
 - d. None
18. Paper chromatography is a [a]
 - a. Liquid-Liquid chromatography
 - b. Solid-Liquid chromatography
 - c. Gas –Liquid chromatography
 - d. Gas-Solid chromatography
19. In gas chromatography gas is used as a [b]
 - a. Stationary phase
 - b. Mobile phase
 - c. Both
 - d. None
20. In column chromatography which moth method is used to fill the stationary phase [c]
 - a. Dry packing
 - b. Wet packing
 - c. both
 - d. None

II. Fill in the blanks.

1. $K_D = \frac{C_1}{C_2}$
2. TLC = Thin layer chromatography
3. GC = Gas chromatography
4. HPLC = High performanced liquid chromatography

5. Formula of zeolite clay = _____
6. Formula of silica = SiO₂.xH₂O
7. CCl₄ is used as Mobile phase
8. Formula of Alumina Al₂O₃ x. H₂O
9. Types of paper chromatography 3
10. $R_f = \frac{R_f \text{ value of given substance}}{R_f \text{ value of pure substance}}$
11. Cations ions are exchanged in cation exchange chromatography.
12. How many types of chromatography 6
13. Give two examples of mobile phase C₂H₅OH, CH₃OH, CH₃COOH
14. Give two examples of stationary phase Starch, Sucrose
15. In purity determination TLC chromatography is used.
16. Adsorption \propto surface area
17. An adsorption chromatography solid is used as a stationary phase.
18. Liquid is used as a stationary phase is called partition chromatography
19. To detect the colour less compounds 2,4 DNP, FeCl₃ is used
20. Separation of Amino acids, mobile, solvent are Butanol: Acetic acid:H₂O (4:1:5)

III. Short Answers.

1. What is K_D ?
A: $K_D = \frac{\text{Conc. of 'A' in organic layer}}{\text{Conc. of 'A' in aqueous layer}}$
2. Define distribution law?
A: At equilibrium the ratio of conc. of solute molecules in the both liquids at constant pressure.
3. Write definition of chromatography?
A: It is a method of separating a mixture of compounds into pure individual compounds.
4. Give two examples for solid-liquid chromatography?
A: TLC, Ion exchange chromatography, column chromatography
5. Define stationary phase?
A: A phase does not move. It may be a solid/liquid
6. Which types of paper is used in radial paper chromatography?
A: Whatman paper
7. What is mobile phase?
A: A phase that moves. It may be liquid/gas
8. What is Retardation factor?
A: $R_f = \frac{\text{distance travelled by solute}}{\text{distance travelled by solvent front}}$
9. What is solvent extraction?
A: The process of separation of compounds from the mixture in solution formed by extraction with another immiscible solvent
10. Write any 2 application of TLC?
A: 1) check purity of given samples 2) Identify compounds like acids, alcohols, proteins and amides.