
 <b>Oral exam May 2020</b>	 جامعة دمياط Damietta University
<b>Faculty of Science          Chemistry Department          Group: 4th year          Biochemistry/Chemistry          students.</b>	<b>Course title and code:          Separation methods of biological          Materials (404 C)</b>	<b>Date: 6/7/2020          Time: 10 mins          Full mark: 20</b>

**Question 1 (20 marks):**

**A. Choose the correct answer:**

1. Liquid chromatography can be performed in which of the following ways?

- a) Only in columns
- b) only on plane surfaces
- c) Either in columns or on plane surfaces
- d) Neither in columns nor on plane surfaces

2. Chromatography involves two mutually \_\_\_\_\_

- a) Immiscible phases
- b) Miscible phases
- c) Soluble phases
- d) None of the mentioned

3. Which of the following is not a stationary phase?

- a) Liquid-liquid chromatography
- b) Gas-liquid chromatography
- c) Gas-solid chromatography
- d) Solid-solid chromatography

4. Liquid chromatography is a technique for separating \_\_\_\_\_

- a) Ions that are not dissolved in a solvent
- b) Ions that are dissolved in a solvent

- c) Ions that are dissolved in a solute
- d) All of the mentioned

**5.** A proper solvent that is passed through the column for elution so that separated components can be collected is called \_\_\_\_\_

- a) Adsorbent
- b) Buffer solution
- c) Mobile phase
- d) None of the mentioned

**6.** The relative solubility of solute in both the phases determines the \_\_\_\_\_

- a) Rate of movement of solvent
- b) Rate of disappearance of solvent
- c) Rate of movement of solute
- d) Rate of disappearance of solute

**7.** If the mobile phase is gas, movement of solute is determined by its \_\_\_\_\_

- a) Boiling point
- b) Melting point
- c) Solubility
- d) Volatility

**8-** The process of passing a mobile phase through a chromatography column is called which one of the following?

- a) Flushing
- b) Washing
- c) Elution
- d) Partitioning

**9-** The pH at which a protein carries a net zero charge is termed which of the following?

a) pKa

b) pKb

c) pI

d) K

**10-** Thin layer chromatography is

- A. partition chromatography
- B. electrical mobility of ionic species
- C. adsorption chromatography
- D. none of the above

*With my best wishes*

***Dr. Rasha F. Zahran***