



## Food Safety Laboratory Capacity Building

### Module 5 Quiz – Answer Key

1. What is the mobile phase in QC?

- a. A reactive gas
- b. An inert gas
- c. An organic solvent
- d. An inorganic solvent

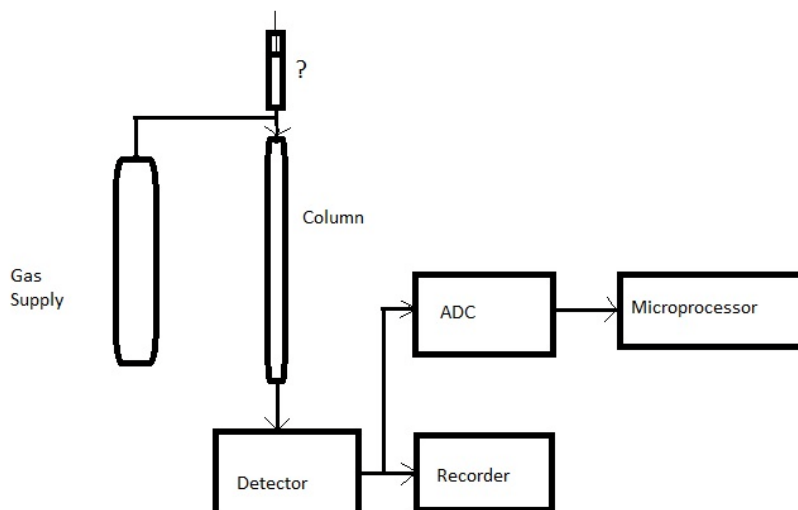
2. Gas chromatography separates the mixture of dyes on the basis of which characteristic?

- a. Solubility
- b. Boiling point
- c. Density
- d. Gravity

3. Sample injection port must be maintained at a temperature at which rapid vaporisation occurs but thermal degradation does not occur.

- a. True
- b. False

4. Please identify the component marked with a ? in the diagram.



- a. Pumping system
- b. Pressure regulator
- c. Flow regulator
- d. Sample injection system

5. Why do we need both LC and GC to test for pesticide residues? (select all that apply)

- a. Some pesticides are very polar
- b. Some pesticides are not volatile
- c. Some pesticides are very non-polar
- d. None of the above

Responses: a (difficult in GC), b (not suitable for GC) and c (difficult in LC)

6. Please identify the suitable diluents for GC samples.

- a. Acetonitrile
- b. Toluene
- c. Acetone
- d. Methanol
- e. Water

Responses B and C (others have ebullition point not suitable for GC analysis)

7. Split injection is carried by:

- a. Splitting the sample into small portions to inject at the same time through parallel ports
- b. Splitting the sample into smaller portions injected sequentially
- c. Splitting off some of the sample so that it does not enter the column
- d. None of the above

8. Fill in the blanks in the following sentences using these words:

- |             |             |                 |                     |
|-------------|-------------|-----------------|---------------------|
| a. injector | b. detector | c. mobile phase | d. stationary phase |
|-------------|-------------|-----------------|---------------------|

In gas chromatography an inert gas is used to carry the sample through the column to the detector; this gas is known as the **mobile phase**.

The **detector** will sense the compounds as they exit the GC column.

The packing used in a GC, known as the **stationary phase**, aids in the separation of compounds due to the varying adsorption of molecules on the packing.

... are introduced to the column by way of the **injector**, which is sometimes heated to aid in the vaporization of the sample before it enters the column.