BP701T: Instrumental Methods of Analysis (Theory)

MCQ Assessments

Unit IV: Gas Chromatography, HPLC

1. What is the mobile phase in Gas Chromatography?
   a) Liquid
   b) Gas
   c) Solid
   d) Gel

2. What is the stationary phase in HPLC?
   a) Gas
   b) Liquid
   c) Solid or liquid-coated solid
   d) Paper

3. What is the purpose of derivatization in Gas Chromatography?
   a) Increase column temperature
   b) Improve compound detection
   c) Reduce sample volume
   d) Change mobile phase

4. Which detector is used in HPLC?
   a) Flame ionization detector
   b) UV detector
   c) Golay cell
   d) Hollow cathode lamp

5. What is temperature programming in Gas Chromatography?
   a) Changing mobile phase composition
   b) Gradually increasing column temperature
   c) Adjusting detector sensitivity
   d) Using multiple columns

6. What is an application of HPLC?
   a) Identifying molecular vibrations
   b) Quantifying active pharmaceutical ingredients
   c) Measuring light scattering
   d) Separating ions

7. What is isocratic elution in HPLC?
   a) Constant mobile phase composition
   b) Changing mobile phase composition
   c) Using gas as mobile phase
   d) Reducing flow rate

8. What does retention time indicate in Gas Chromatography?
   a) Time for sample injection
   b) Time for compound to travel through the column
   c) Time for detector calibration
   d) Time for mobile phase flow

9. What is the role of a guard column in HPLC?
   a) Detects compounds
   b) Protects the main column
   c) Increases pressure
   d) Selects wavelengths

10. Which component delivers the mobile phase in HPLC?
   a) Detector
   b) Pump
   c) Column
   d) Injector

Answer Key for Unit IV MCQ
1. b) Gas (Remembering)
2. c) Solid or liquid-coated solid (Remembering)
3. b) Improve compound detection (Understanding)
4. b) UV detector (Remembering)
5. b) Gradually increasing column temperature (Understanding)
6. b) Quantifying active pharmaceutical ingredients (Applying)
7. a) Constant mobile phase composition (Understanding)
8. b) Time for compound to travel through the column (Understanding)
9. b) Protects the main column (Understanding)
10. b) Pump (Remembering)