BP701T: Instrumental Methods of Analysis (Theory)

MCQ Assessments

Unit II: IR Spectroscopy, Flame Photometry, Atomic Absorption Spectroscopy, Nepheloturbidometry

1. What is the fingerprint region in IR spectroscopy?
   a) 4000–2500 cm^{-1}
   b) 1500–500 cm^{-1}
   c) 2500–2000 cm^{-1}
   d) Above 4000 cm^{-1}

2. Which light source is used in IR spectroscopy?
   a) Deuterium lamp
   b) Tungsten lamp
   c) Nernst glower
   d) Xenon lamp

3. What is measured in Flame Photometry?
   a) Light absorption
   b) Light emission
   c) Light scattering
   d) Molecular vibrations

4. What is the light source in Atomic Absorption Spectroscopy?
   a) Hollow cathode lamp
   b) Tungsten lamp
   c) Flame burner
   d) Mercury lamp

5. What does nephelometry measure?
   a) Light absorbed by particles
   b) Light scattered by particles
   c) Light emitted by atoms
   d) Light transmitted through solution

6. Which detector is used in IR spectroscopy?
   a) Photomultiplier tube
   b) Golay cell
   c) Flame ionization detector
   d) UV detector

7. What is an application of Atomic Absorption Spectroscopy?
   a) Identifying functional groups
   b) Quantifying metal ions
   c) Separating proteins
   d) Measuring fluorescence

8. What type of vibration occurs in IR spectroscopy?
   a) Electronic
   b) Rotational
   c) Stretching and bending
   d) Nuclear

9. What reduces accuracy in Flame Photometry?
   a) Interferences
   b) Detector type
   c) Sample color
   d) Path length

10. What is the principle of turbidimetry?
   a) Measuring emitted light
   b) Measuring light attenuation by particles
   c) Measuring molecular size
   d) Measuring ion exchange

Answer Key for Unit II MCQ
1. b) 1500–500 cm^{-1} (Remembering)
2. c) Nernst glower (Remembering)
3. b) Light emission (Understanding)
4. a) Hollow cathode lamp (Remembering)
5. b) Light scattered by particles (Understanding)
6. b) Golay cell (Remembering)
7. b) Quantifying metal ions (Applying)
8. c) Stretching and bending (Understanding)
9. a) Interferences (Applying)
10. b) Measuring light attenuation by particles (Understanding)