

Instrumental Analysis for second Level

القائمون بالتدريس و الممتحنون و المصححون :

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Research topics

- 1- Atomic absorption vs Molecular absorption (with illustrative examples).
- 2- Wavelength selectors and detectors in UV/VIS Spectrophotometer.
- 3- Factors affecting absorption in UV/VIS spectrophotometry.
- 4- Sunscreen protection factor (SPF).
- 5- Effect of substitution on benzene spectrum.
- 6- Effect of pH and redox reactions on absorption spectrum.
- 7- Colored absorbed Vs color observed.
- 8- Solvents in UV/VIS spectroscopy.
- 9- Quantitative applications of UV/VIS spectroscopy including steps obeyed for quantitation (example from published papers).
- 10- Deviations from Beer's Law (Reasons, types and how to overcome)
- 11- Spectrophotometric determination of pKa of weak acid or pKind.
- 12- Atomic absorption vs Flame emission spectroscopy (basic principles, comparison between the two methods).
- 13- Analytical applications of AAS & FES (give examples from published papers).
- 14- Standard addition method as a calibration method in AAS and FES (Reasons for use, basic principles and one published example).
- 15- Interferences in AAS and FES (Types and how to overcome).
- 16- Chromatographic methods for antihypertensive drugs
- 17- Chromatographic methods for antidiabetic drugs
- 18- Chromatographic methods for nonsteroidal anti-inflammatory drugs

- 19- Chromatographic methods for antihyperlipidemic drugs
- 20- Chromatographic methods for anticoagulant drugs
- 21- Chromatographic methods for antibiotics
- 22- Chromatographic methods for antifungal drugs
- 23- Chromatographic methods for antiviral drugs
- 24- Chromatographic methods for corticosteroids
- 25- Chromatographic methods for antihistaminic drugs
- 26- Chromatographic methods for anticholinergic drugs
- 27- Chromatographic methods for antidepressants