

Central lab

Lab technician: Thana'a Al-Smadi

Flame Atomic Absorption Spectrometer (FAAS)



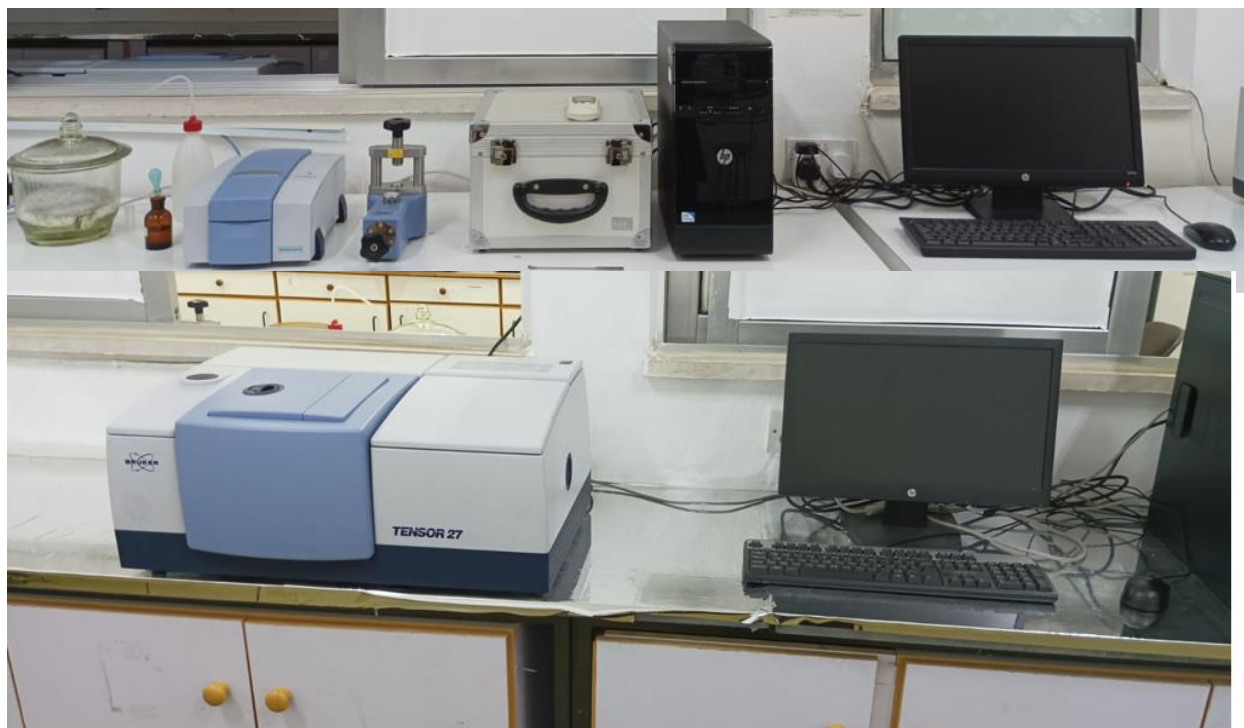
FAAS is used in measuring the concentrations of different metals in the samples (especially toxic heavy metals like Pb, Cd, As, Cu, Ni ...etc.) by measuring their absorbances at selected wavelengths in the visible and ultraviolet range from the EM Spectrum. The theory of flame atomic absorption

spectrometry depends upon the Beer's law ($A = -\log T = abc$) and the concentration calculations are usually done according the linear standard calibration method. It's used in chemical, biochemical, pharmacological, medical, geological and toxicity research fields.

Central lab

Lab technician: Thana'a Al-Smadi

Fourier-transform infrared spectrometer (FT-IR)



FT-IR is used to obtain the IR spectra of different organic and inorganic chemical compounds. The theory depends on the vibrational modes of chemical bonds in different chemical compounds. The resulted IR spectrum covers the range of $400\text{cm}^{-1} - 4000\text{cm}^{-1}$. It reveals the types of chemical bonds present in the chemical compounds and hence reveals the functional groups suspected to be presented in the sample.

FT-IR together with other spectroscopic methods like UV-VIS, GC-MS, NMR...etc. can be used to figure out the total shapes of the chemical

compounds in the samples which in many times can be totally unknown.

Moreover, FT-IR is very useful to be used in detection of different changes that occur in the chemical bonds in samples during different chemical reactions (in-situ measurements).