1.4-Work plan and Methodology

A high intensity well-collimated beam of 123 keV and 661.6 keV photons was incident on target placed inside the well of the detector. The good geometry condition avoids the external secondary radiation from nearby objects and the interfering effects. Targets will be prepared by using spectorscorpically pure compounds and each compound fine powder filled in cylindrical plastic container. The x-ray spectra form various target for different masses of the compounds will record with a NaI(Tl) spectrometer.

The X-ray fluorescence cross section $\sigma_k^X$ for a given energy $E$ were calculated using the relation.

$$\sigma_k^X (E) = \frac{I_k}{NSGE_k}$$

Where $I_k$ is the count rate per unit area under K X-ray peak of the given element, $S$ is the source strength, $G$ is the geometry factor, $E_k$ is the efficiency of the detector for K X-rays and $N$ is the number of atoms per unit area of the target.
1.5- A TENTATIVE CHAPTER SCHEME:

CHAPTER 1 : Review of literature.

CHAPTER 2 : Introduction.

CHAPTER 3 : Interaction of low energy photons with matter.

CHAPTER 4 : Methodology.

CHAPTER 5 : Experimental set up.

CHAPTER 6 : Measurement of K-X-ray fluorescence in some rare earth and heavy Elements.

CHAPTER 7 : Result and Discussion.