List of Experiments in Nuclear Physics

1. (a) Characteristics of G.M. Detector
   (i) Operating voltage
   (ii) Plateau
   (iii) Dead Time

   (b) Statistical aspects of radiation
   (i) Weak Source
   (ii) Strong Source

2. Absorption coefficient of beta- particles for at least two sources by using Al absorbers.

3. Absorption coefficient of γ- rays for Al, Cu and Pb absorbers by using ^{137}Cs source.

4. γ Ray spectroscopy using a single channel analyzer- to calibrate the spectrometer, find the resolution of the detector and find the energy of an unknown source.

5. γ Ray spectroscopy using a multi-channel analyzer- to calibrate the spectrometer, find the resolution of the detector and find the energy of an unknown source.

6. Half-life of Indium (In) and (Ag) by using a GM detector- to find the operating voltage of GM detector and use it to find the half-life.

7. Alfa (α) – Ray spectroscopy by using MCA- to calibrate the spectrometer and find the energy of an unknown source.

8. Compton Scattering- To verify the Compton scattering law.

9. Rutherford Scattering- To study the variation of scattering cross-section with angle and verify the Rutherford scattering law.

10. Beta Spectroscopy.