1. What are matter waves? Derive an expression for the de Broglie wave length.

2. Find the ratio of de-Broglie wavelengths associated with two electrons accelerated through 25 and 36 V.

3. How does the de-Broglie wavelength of a charged particle changes when accelerating potential increases?

4. Find the de-Broglie wavelength of an electron with kinetic energy of 120 eV.