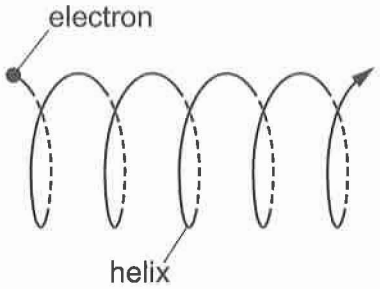
31 The force on an electron is 7.3×10^{-16} N when moving at an angle of 23° to a uniform magnetic field of magnetic field strength 0.084 T.



extended helix

flat spiral

What is the speed of the electron and what is the shape of the path of the electron?

A $1.4 \times 10^{5}\,m\,s^{-1}$ in a helix

B $1.4 \times 10^{5}\,m\,s^{-1}$ in a spiral

C $2.1 \times 10^{4}\,m\,s^{-1}$ in a helix

D $2.1 \times 10^{4}\,m\,s^{-1}$ in a spiral