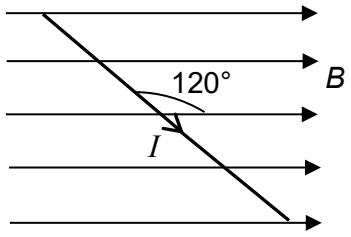
**22** A 5.0 g copper wire of length 40.0 cm is placed on a horizontal surface at an angle of 120° to a uniform magnetic field of flux density 0.050 T as shown below.

When a current $I$ passes through the wire, the wire lifts vertically up with an acceleration of 0.010 m $s^{-2}$.




Top view

What is the current in the wire?

**A** 0.00289 A **B** 2.46 A **C** 2.83 A **D** 5.66 A