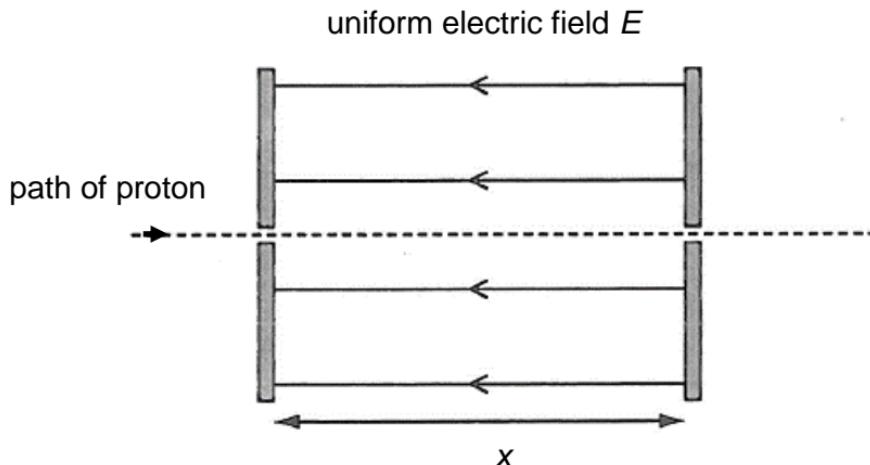


- 20** A proton of mass m and charge e travels through a uniform electric field of field strength E . It enters the field with velocity v and then travels a distance x in a direction opposite to the field, as shown.



What will be its speed when leaving the field?

A $v + \sqrt{\frac{eEx}{m}}$

B $v - \sqrt{\frac{eEx}{m}}$

C $\sqrt{v^2 + \frac{2eEx}{m}}$

D $\sqrt{v^2 - \frac{2eEx}{m}}$