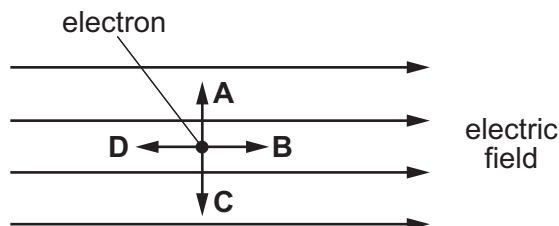


- 27 The diagram shows an electron in a uniform electric field.

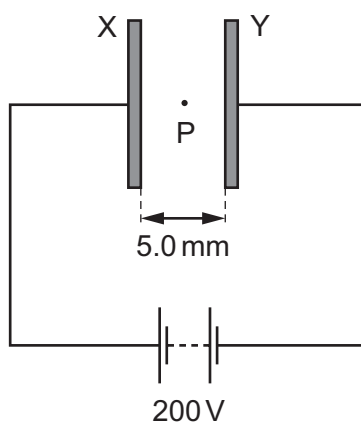
In which direction will the field accelerate the electron?



- 28 The electric field strength at a certain distance from an isolated alpha particle is $3.0 \times 10^7 \text{ NC}^{-1}$.

What is the force on an electron when at that distance from the alpha particle?

- A** $4.8 \times 10^{-12} \text{ N}$
B $9.6 \times 10^{-12} \text{ N}$
C $3.0 \times 10^7 \text{ N}$
D $6.0 \times 10^7 \text{ N}$
- 29 Two large parallel plates X and Y are placed a distance of 5.0 mm apart and connected to the terminals of a 200 V d.c. supply, as shown.



A small oil drop at P carries one excess electron.

What is the magnitude of the electrostatic force acting on the oil drop due to the electric field between the plates?

- A** $6.4 \times 10^{-15} \text{ N}$
B $6.4 \times 10^{-18} \text{ N}$
C $1.6 \times 10^{-19} \text{ N}$
D $4.0 \times 10^{-24} \text{ N}$