

- 6 Two parallel vertical metal plates are connected to a power supply, as shown in Fig. 6.1.

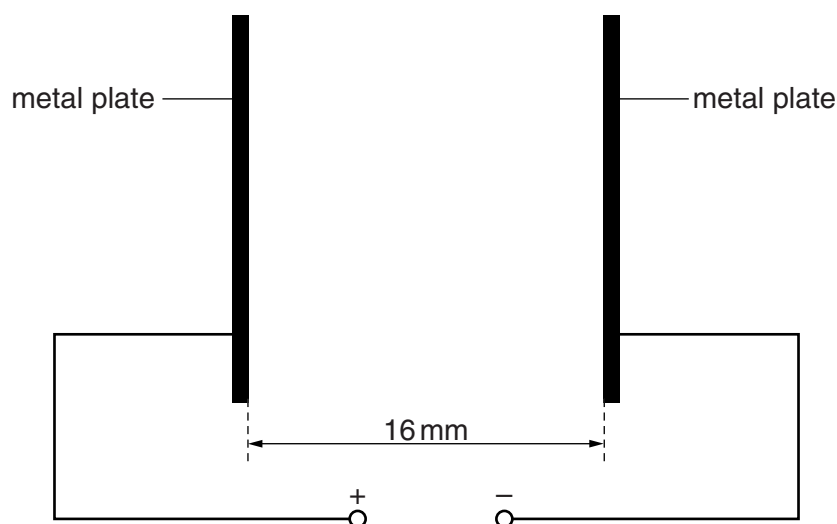


Fig. 6.1

The separation of the plates is 16 mm.

- (a) On Fig. 6.1, draw at least six field lines to represent the electric field between the plates. [1]
- (b) An α -particle travels in a vacuum between the two plates.

The electric field does work on the α -particle. The gain in kinetic energy of the α -particle is 15 keV.

Calculate the electric field strength between the plates.

electric field strength = V m^{-1} [4]

[Total: 5]