

- 7 (a) State what is meant by *quantisation* of charge.

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 [1]

- (b) Charged parallel plates, as shown in Fig. 7.1, produce a uniform electric field between the plates.

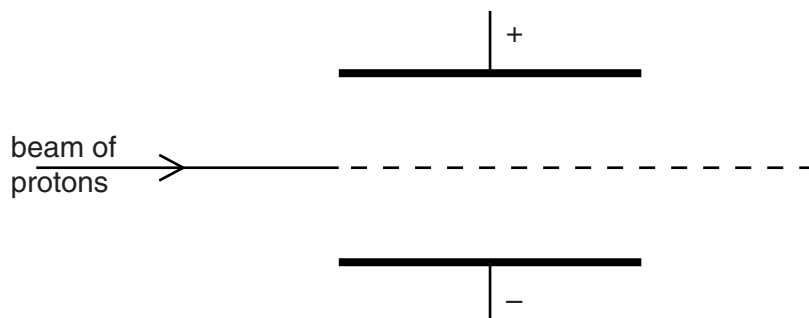


Fig. 7.1

The electric field outside the region between the plates is zero.

A uniform magnetic field is applied in the region between the plates so that a beam of protons passes undeviated between the plates.

- (i) State and explain the direction of the magnetic field between the plates.

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 [2]

- (ii) The magnetic flux density between the plates is now increased.

On Fig. 7.1, sketch the path of the protons between the plates. [2]