

- 1 (a) State the SI base units of force.

..... [1]

- (b) Two wires each of length l are placed parallel to each other a distance x apart, as shown in Fig. 1.1.

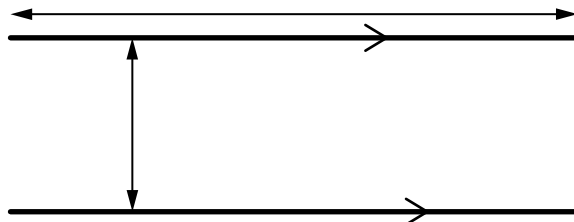


Fig. 1.1

Each wire carries a current I . The currents give rise to a force F on each wire given by

$$F = \frac{KI^2l}{x}$$

where K is a constant.

- (i) Determine the SI base units of K .

units of K [2]

- (ii) On Fig. 1.2, sketch the variation with x of F . The quantities I and l remain constant.



Fig. 1.2

[2]

(iii) The current I in both of the wires is varied.

On Fig. 1.3, sketch the variation with I of F . The quantities x and l remain constant.



Fig. 1.3

[1]