

- 10 Two coils P and Q are placed close to one another, as shown in Fig. 10.1.

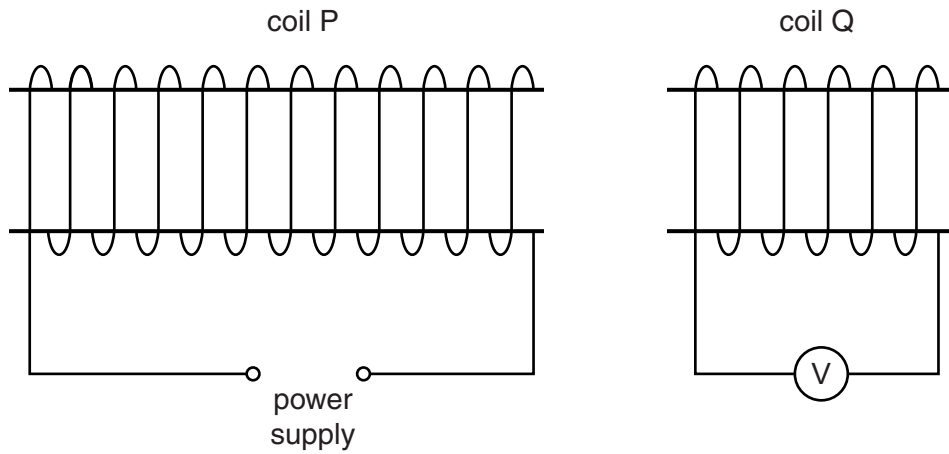


Fig. 10.1

- (a) The current in coil P is constant.

An iron rod is inserted into coil P.

Explain why, during the time that the rod is moving, there is a reading on the voltmeter connected to coil Q.

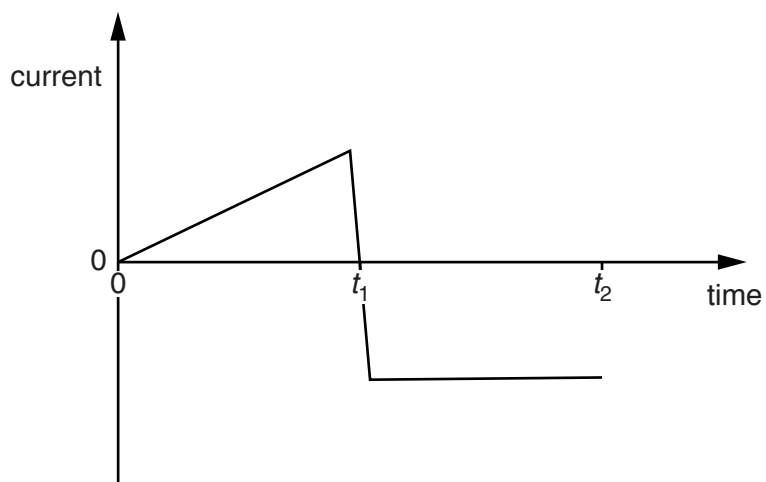
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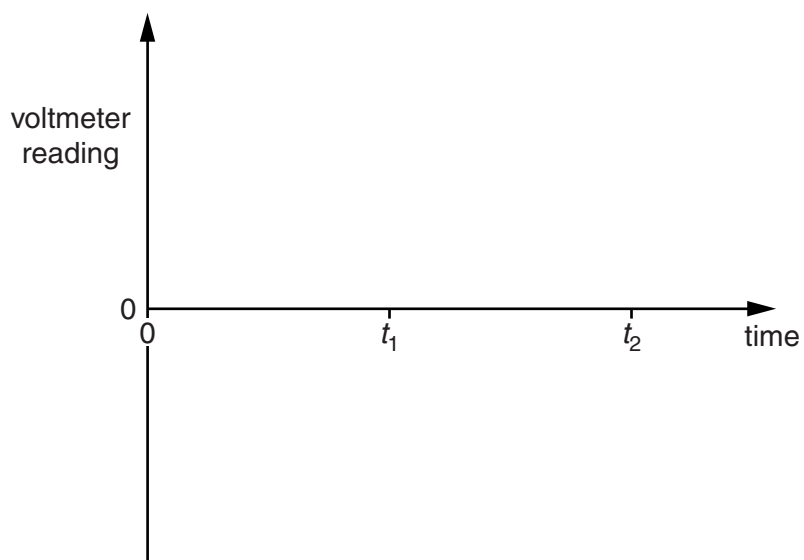
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(b) The current in coil P is now varied as shown in Fig. 10.2.



**Fig. 10.2**

On Fig. 10.3, show the variation with time of the reading of the voltmeter connected to coil Q for time  $t = 0$  to time  $t = t_2$ .



**Fig. 10.3**

[4]

[Total: 6]