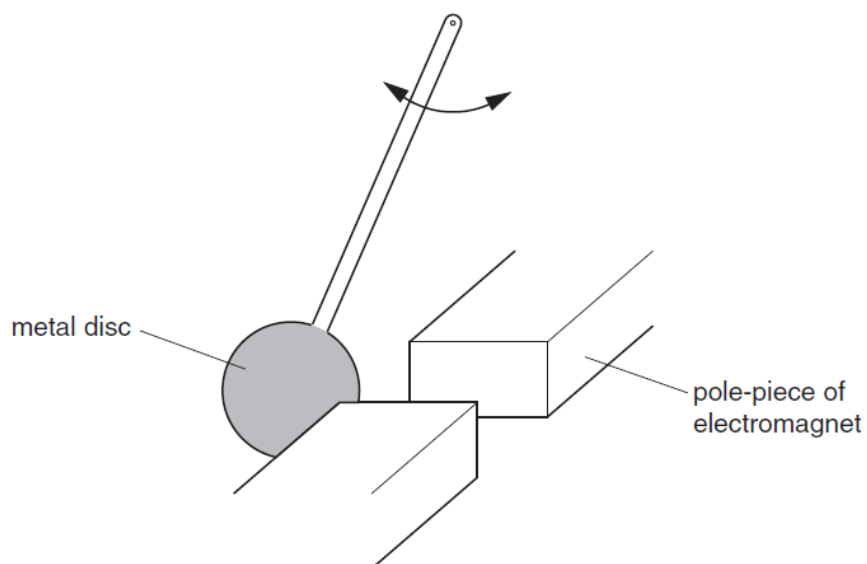


- 7 A metal disc is swinging freely between the poles of an electromagnet, as shown in Fig. 7.1.



**Fig. 7.1**

When the electromagnet is switched on, the disc comes to rest after a few oscillations.

- (a) (i) State Faraday's law of electromagnetic induction and use the law to explain why an e.m.f. is induced in the disc.

.....

.....

.....  
.....[2]

**(ii)** Explain why eddy currents are induced in the metal disc.

.....  
.....  
.....  
.....[2]

**(b)** Use energy principles to explain why the disc comes to rest after a few oscillations.

.....  
....  
.....  
....  
.....  
....  
.....  
....

.....

....

.....

[3]

### Section B

Answer **one** question from this Section in the spaces provided.