

- 7 (a) A solenoid is connected in series with a resistor, as shown in Fig. 7.1.

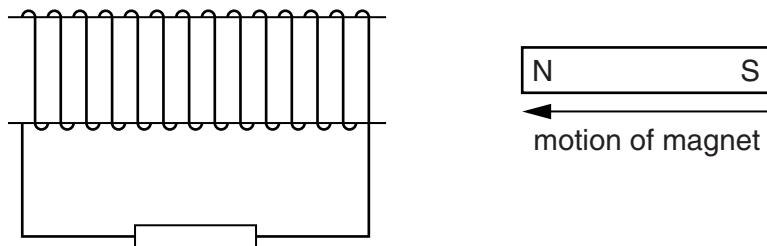


Fig. 7.1

As the magnet is being moved into the solenoid, thermal energy is transferred in the resistor.
Use laws of electromagnetic induction to explain the origin of this thermal energy.

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- (b) Explain why the alternating current in the primary coil of a transformer is not in phase with the alternating e.m.f. induced in the secondary coil.

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