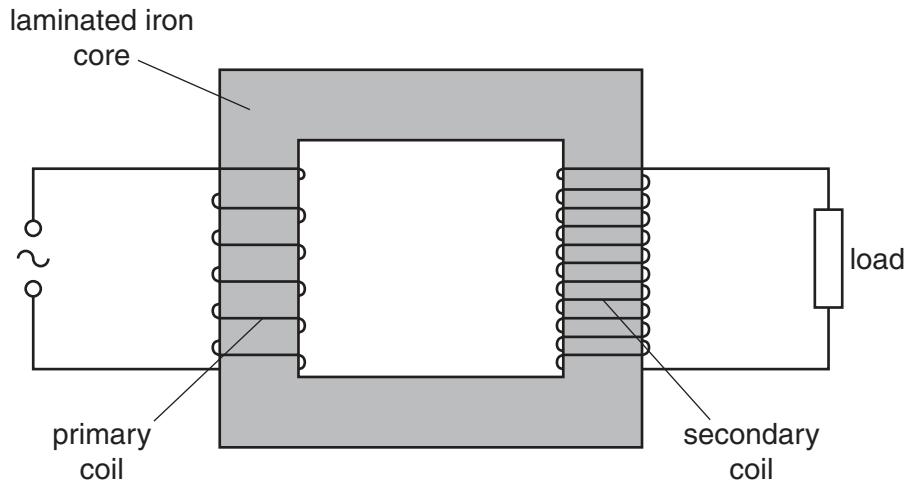


6 A transformer is illustrated in Fig. 6.1.**Fig. 6.1**

- (a) (i) Explain why the coils are wound on a core made of iron.

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.....

[1]

- (ii) Suggest why thermal energy is generated in the core.

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[2]

- (b) (i) State Faraday's law of electromagnetic induction.

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[2]

- (ii) Use Faraday's law to explain why the potential difference across the load and the e.m.f. of the supply are not in phase.

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[2]

(c) Electrical energy is usually transmitted using alternating current. Suggest why the transmission is achieved using

- (i) high voltages,

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.....
.....

[2]

- (ii) alternating current.

.....
.....

[1]