

- 9 (a) Define magnetic flux.

[2]

- (b) A simple transformer consists of two coils of wire wound on a soft-iron core, as illustrated in Fig. 9.1.

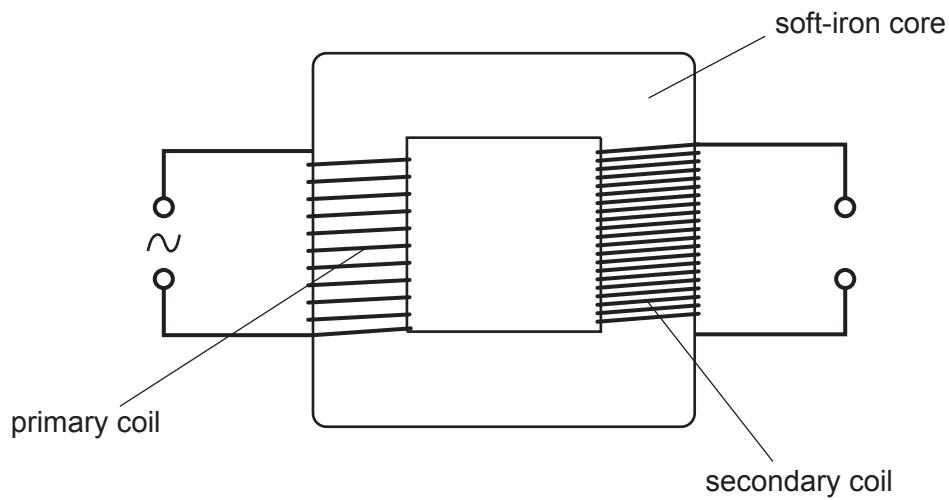


Fig. 9.1

There is a sinusoidal current in the primary coil.

Explain:

- (i) how this current gives rise to an induced electromotive force (e.m.f.) in the secondary coil

[3]

- (ii) why the e.m.f. induced in the secondary coil is not constant.

[2]

- (c) Explain why the soft-iron core in (b) is laminated.

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[2]