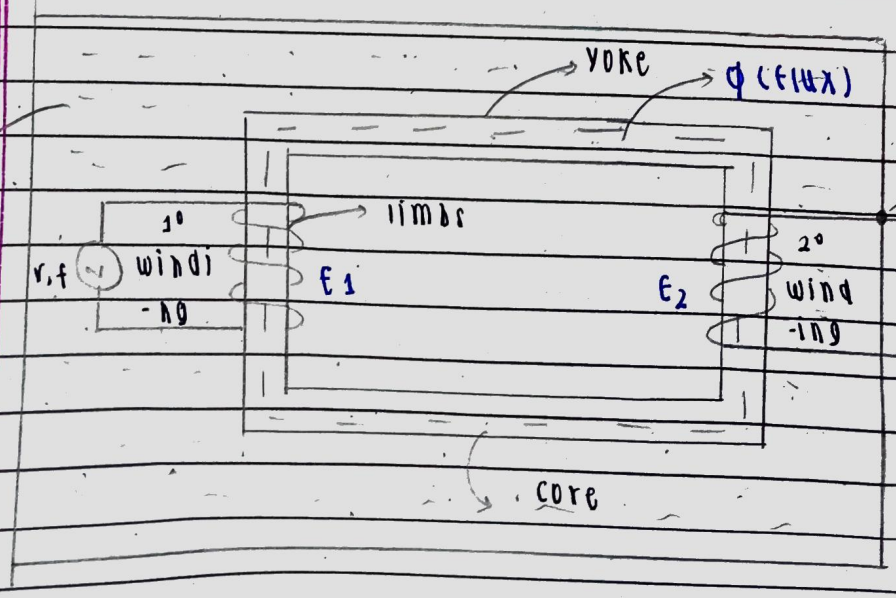
Chap : 2

# Transformer

- It is an AC static machine used to transfer electrical energy from one ckt to another ckt.
  w/o change in freq. by the principle of electromagnetic induction.

- As it has no moving parts
  losses due to it is absent
  ∴ it has ↑η (range of 90s)

## Basic construction



Basically,

a transformer consists of two main parts

① magnetic core

② winding.

The portion of the core on which winding is placed is known as limbs.

& the part of the core connecting the limbs is known as yoke.

In all type of transformer mag. core is made up of thin sheet of steel lamination which are insulated from each other by a thin layer of verniss to ↓ the eddy current loss

↳ The thickness of lamination varies from 0.35 mm to 0.5 mm
↓ at 50 Hz
↓ at 25 Hz.

↳ The material used for core should be such that, ↓ current is reqd. to create the reqd. amount of flux.
(min)

↳ For this purpose steel is used

as it has ↑ permeability

so ↓ current is reqd.

to create / produce suitable amount of flux.

The winding is made up of insulated copper

winding connected to

- supply = primary winding
- load = secondary winding

Beside,

mag. ckt core & winding, a suitable container is used where assembled core & winding are placed.

- suitable medium

↳ (oil)

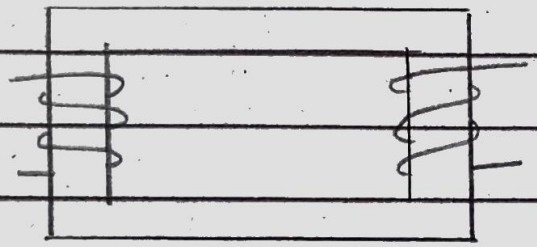
used for insulating core & container of transformer

- suitable medium

↳ bringing out the terminals of windings outside the container

## on basis of construction

(i) core type transformer



(ii) shell type transformer