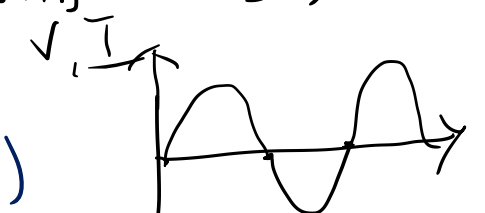


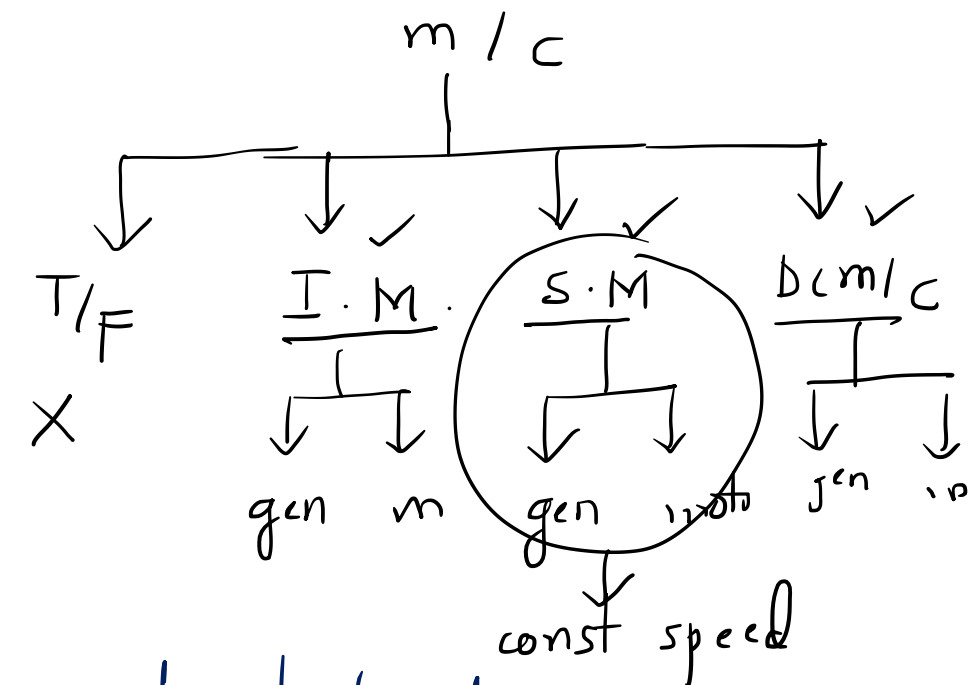
Synchronous m/c

(Rotates with N_s)



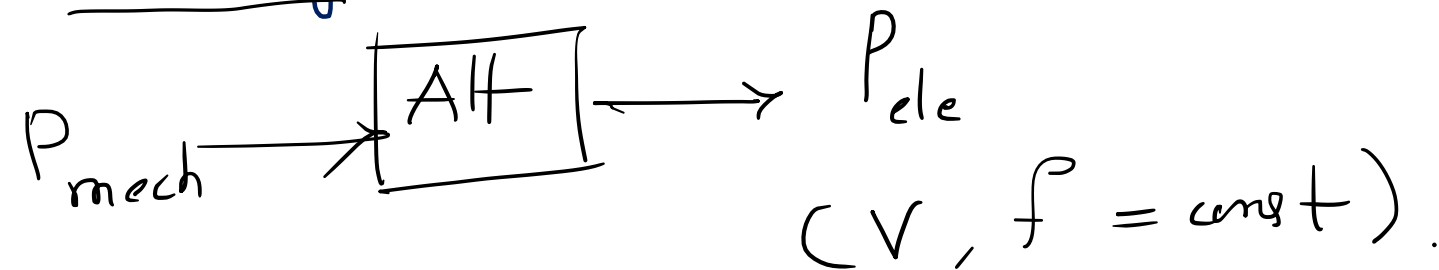
Synchronous m/c $\rightarrow$ 1. Synchronous Generator (Alternator)
 $\rightarrow$ Motor

$\rightarrow$ ac m/c.
 $\rightarrow$ Synchronous speed, $N = N_s$
constant frequency.



Synchronous generator
 (or)

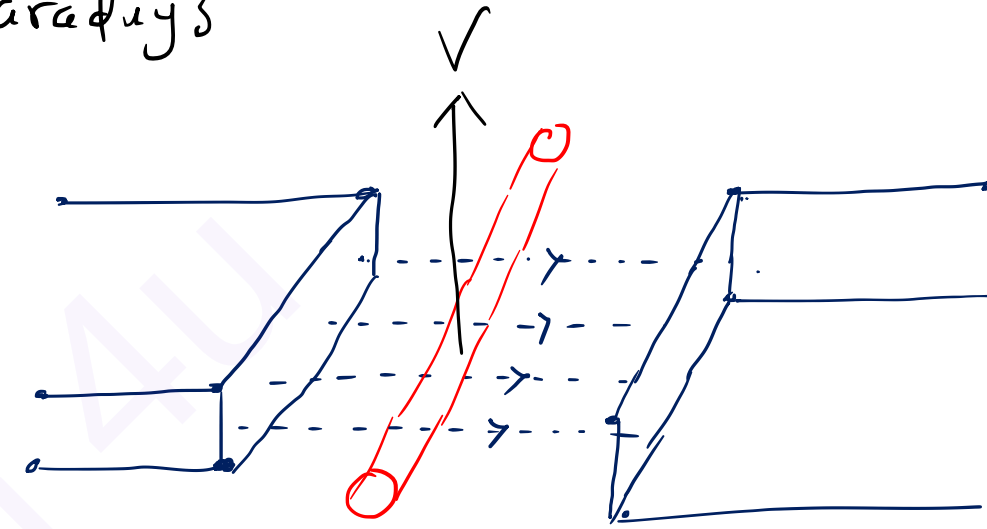
— Alternator : is a m/c which converts mechanical energy to electrical energy
 at a particular voltage & frequency.



— Principle of Operation of Alternator :

Faradays

Whenever conductor cuts the magnetic flux
an emf / voltage is induced in the conductor.



$$e = B l v \sin \theta$$

$B \rightarrow$ flux density

$l \rightarrow$ length of cond,

$v \rightarrow$ velocity

②

— Fleming's Right Hand Rule :

F.F. $\rightarrow$ direction of flux

Thumb $\rightarrow$ " " motion of conductor.

Centre finger $\rightarrow$ Direction of induced e.m.f. / current.

directions,

