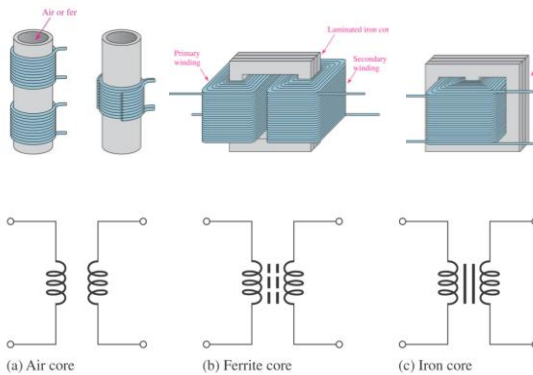
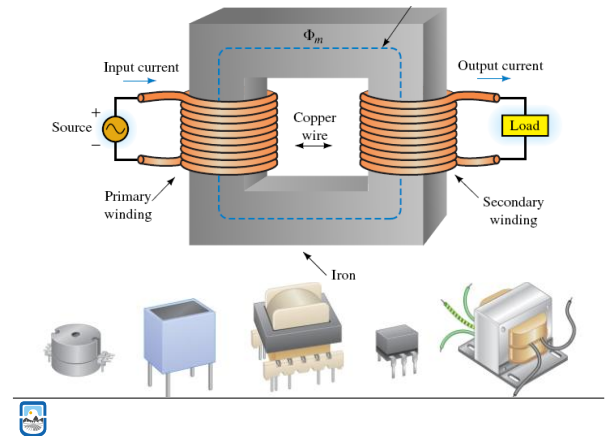


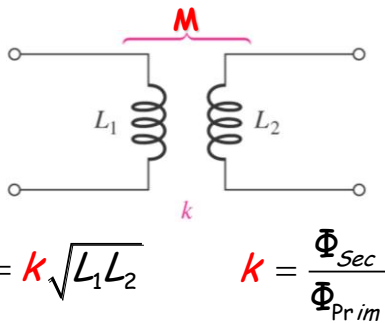
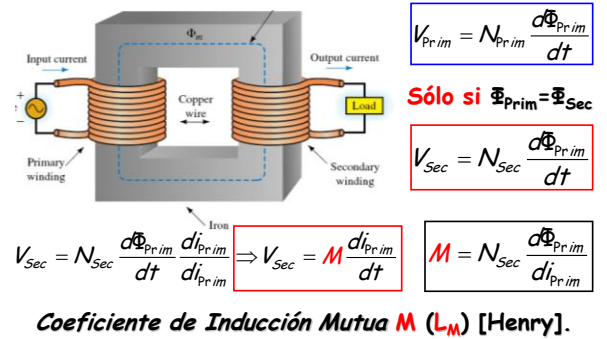
Transformadores



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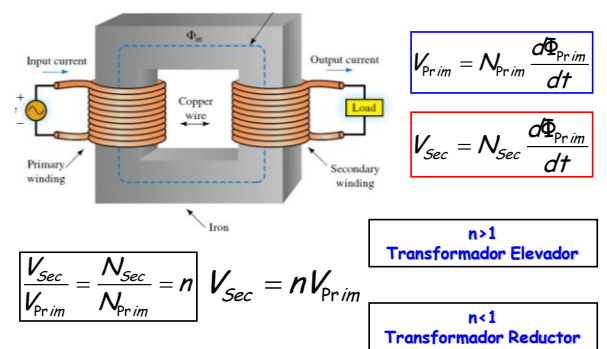


Transformador Ideal: $P_{Prim} = P_{Sec}$

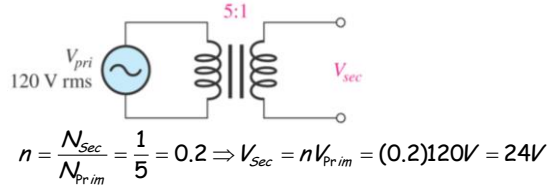
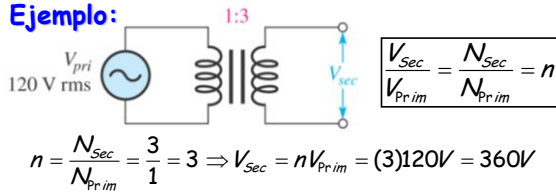


k es el coeficiente de acoplamiento, depende de la geometría y del tipo de material. Es una cantidad adimensional entre 0 y 1.

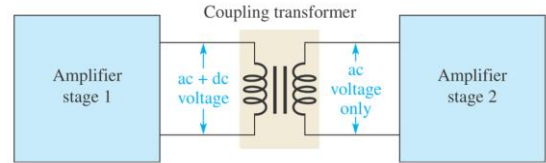
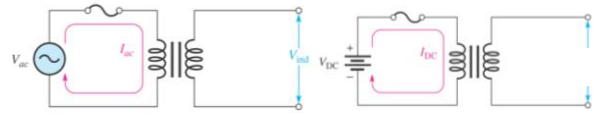
Transformador Ideal: $P_{Prim} = P_{Sec}$



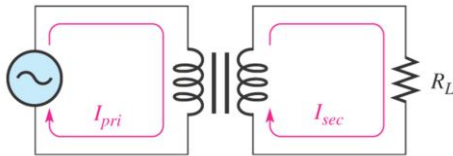
Ejemplo:



Transformador de bloqueo (DC)



Transformador Ideal con carga en el secundario:

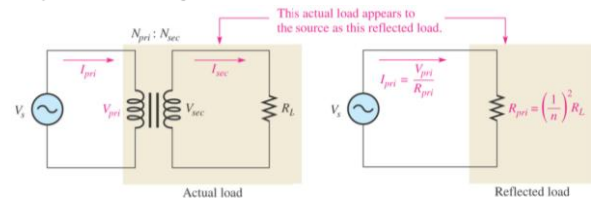


$$P_{Prim} = P_{Sec} \Rightarrow V_{Prim}I_{Prim} = V_{Sec}I_{Sec} \Rightarrow \frac{V_{Prim}}{V_{Sec}} = \frac{I_{Sec}}{I_{Prim}}$$

$$\frac{V_{Sec}}{V_{Prim}} = \frac{N_{Sec}}{N_{Prim}} = n \Rightarrow I_{Sec} = \frac{1}{n} I_{Prim}$$



Impedancia Reflejada:

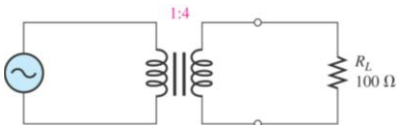


$$R_{Pri} = \frac{V_{Pri}}{I_{Pri}}; R_L = \frac{V_{Sec}}{I_{Sec}} \Rightarrow \frac{R_{Pri}}{R_L} = \left(\frac{V_{Pri}}{V_{Sec}}\right) \left(\frac{I_{Sec}}{I_{Pri}}\right) = \left(\frac{1}{n}\right) \left(\frac{1}{n}\right) = \left(\frac{1}{n}\right)^2$$

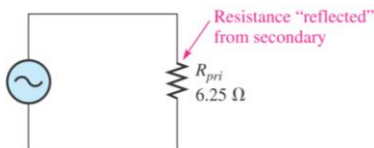
$$R_{Pri} = \left(\frac{1}{n}\right)^2 R_L$$



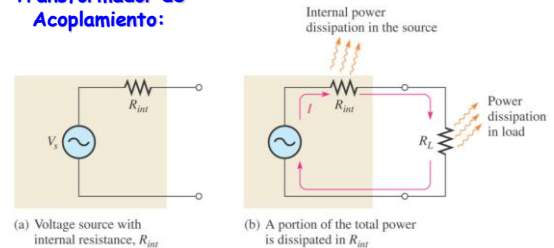
Ejemplo: Determine la resistencia reflejada que "ve" la Fuente.



$$R_{Pri} = \left(\frac{1}{n}\right)^2 R_L = \left(\frac{1}{4}\right)^2 R_L = 6.25\Omega$$



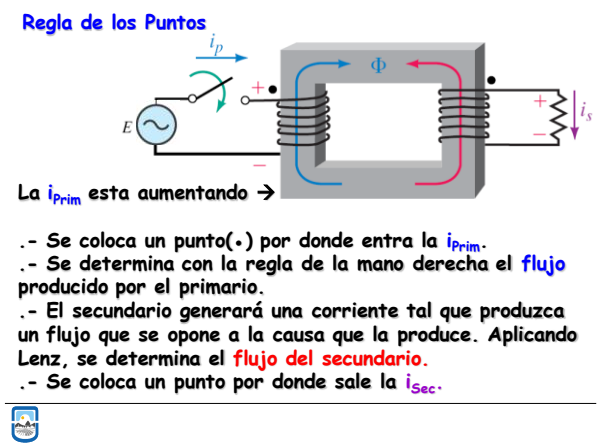
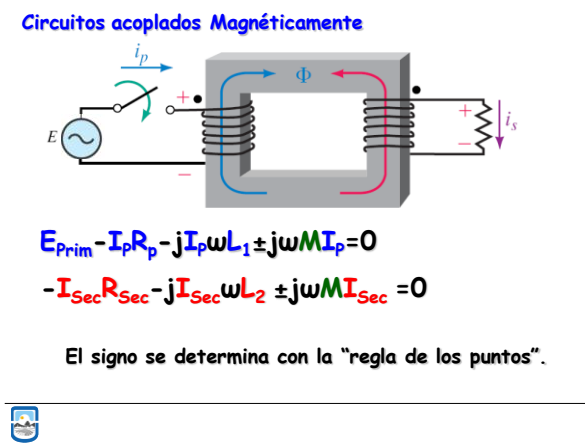
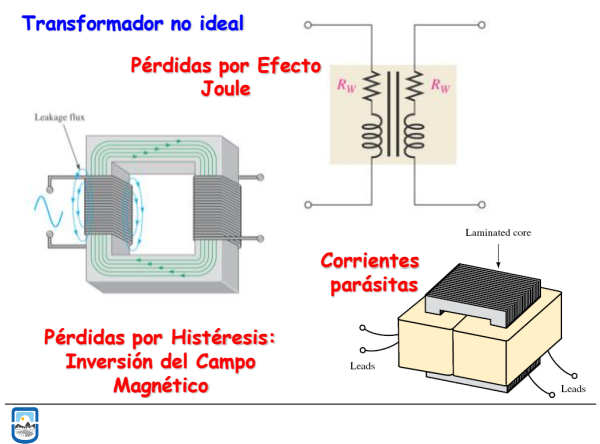
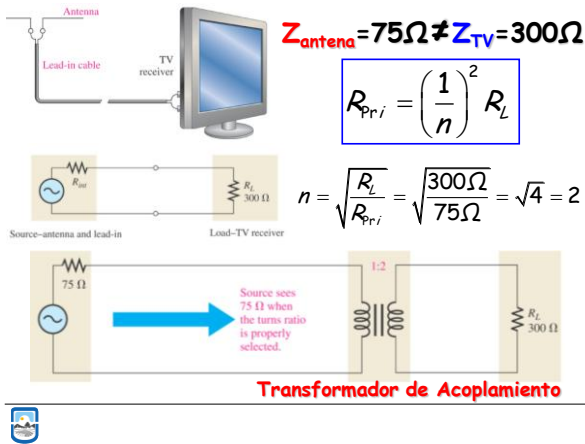
Transformador de Acoplamiento:



Objetivo:

Transferir la mayor potencia de la fuente a la carga.





Si las corrientes entran o salen de los puntos, los signos de M son iguales al de L

Si una corriente entra y otra sale de los puntos, los signos de M son distintos al de L

