SESSION 10

Flux $\qquad\qquad\qquad\qquad\qquad\qquad f = B.A = L.I$

Self EMF $\qquad\qquad\qquad\qquad\qquad e = -\dfrac{df}{dt} = -L\dfrac{dI}{dt}$

Flux $\qquad\qquad\qquad\qquad\qquad\qquad f_B(1) = L_1 I_1 + MI_2$

EMF due to mutual inductance $\qquad e_{21} = -M\dfrac{dI_1}{dt}$

Self Inductance of a coil $\qquad\qquad L = m_0\dfrac{N^2}{l}A$ or $L = m\dfrac{N^2}{l}A$

Mutual Inductance of two coils $\qquad M = m_0\dfrac{N_1 N_2}{l}A$ if coils have same area and length

Energy $\qquad\qquad\qquad\qquad\qquad U = \dfrac{1}{2}LI^2$

Energy Density $\qquad\qquad\qquad\qquad u = \dfrac{1}{2}\dfrac{B^2}{m_0}$

Resonant frequency of a LC circuit $\quad v = \dfrac{1}{\sqrt{LC}}$

For an LRC circuit the resonant frequency $\quad v'^2 = v^2 - a^2$;

$\qquad\qquad\qquad$ Where $\qquad\qquad a = \dfrac{R}{2L}$ is the critical damping parameter