

GIST OF CONCEPT MAP ON ELECTRO MAGNETIC INDUCTION

- 1) Faraday & Henry Discovered from the experiments that an emf will be induced when magnetic flux changes in the coil.
- 2) $\mathcal{E} = -N \frac{d\phi_B}{dt}$
- 3) The polarity of the induced emf is such that it tends to produce a current which opposes the change in magnetic flux that produced it.
- 4) Mechanical energy to move the arm is converted into electrical energy and then into thermal energy.
- 5) The current in the coil changes it induces a back emf in the same coil. The self induced emf is given by $\mathcal{E} = -L \frac{dI}{dt}$
- 6) $N_1 \phi_1 = M_{12} I_2$ and $N_2 \phi_2 = M_{21} I_1$
- 7) Electromagnetic induction is the basic principle of ac generator.
- 8) The emf has its extreme values when $\theta = 90^\circ$ or $\theta = 270^\circ$ as the change of flux is greatest at these points.

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