

$$\Delta V = Bv\ell_{\text{eff}}$$

→ Direction jo current ki hai

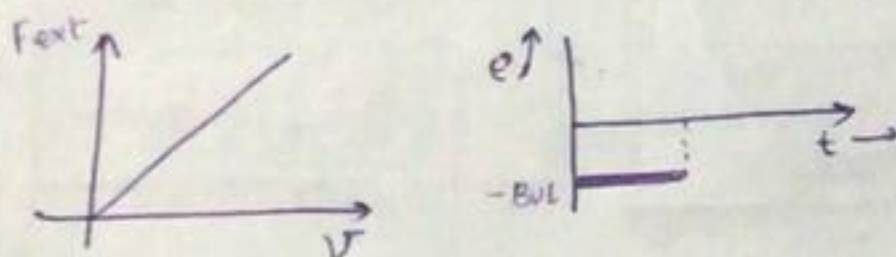
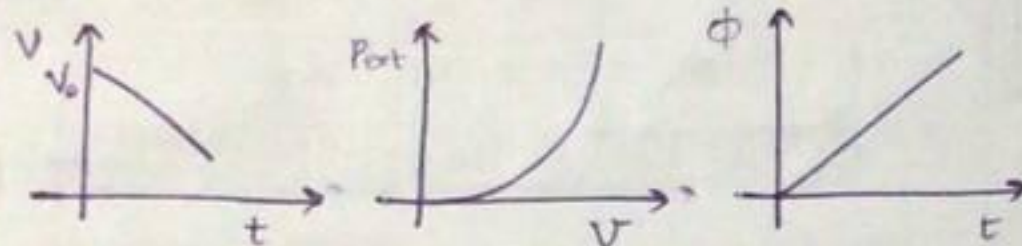
$$F_{\text{mag}} = \frac{B^2 \ell^2 v}{R}$$

$$P = \frac{B^2 \ell^2 v^2}{R}$$

$$F_{\text{ext}} = F_{\text{mag}}$$

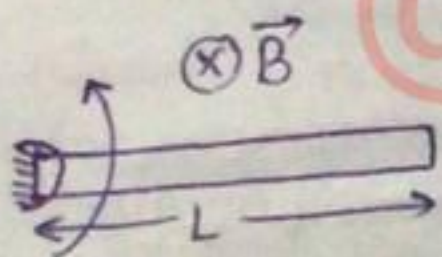
$$P = \frac{e^2}{R}$$

$$F_{\text{mg}} = B\ell \sin \theta$$



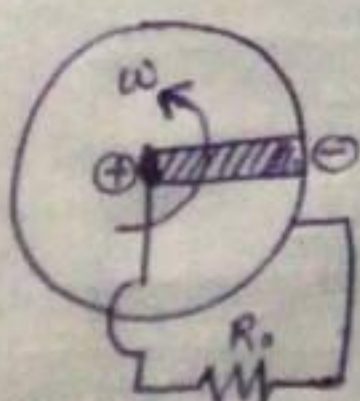
(14) Induced EMF due to rotation of ~~rod~~ conducting rod:-

$$\text{General} = e = \frac{1}{2} B \omega [r_2^2 - r_1^2]$$



$$e = \frac{1}{2} B \omega L^2$$

(15) Metal conducting ring (Fixed)



$$e = \frac{1}{2} B \omega R^2$$

Potential Difference = No. of rod depend nhi Karita

→ Metallic disc = can be assumed to be made of large no. of rods

→ Kitni bhi rods laga lo PD same rhega.

→ Apni parallel me bhut sare of same value ke sap to aayenge same rhega har

(16) Eddy Current

→ Metallic plate placed in time varying MF.

• To minimize eddy current laminated soft iron core is used.

Uses of Eddy Current

- ① Induction furnace
- ② EM damping
- ③ Power meter
- ④ Breaking in Electric trains

→ combination of ~~Induction~~ Induction same as resistance.

Transformer:-

- The efficiency of a transformer is maximum because No part of the transformer is in motion.
- No mechanical loss in transformer.
- The current will remain constant if primary winding of a transformer were connected to a battery.
- Power in 2^o coil < 1^o coil.

$$\frac{V_s}{V_p} = \frac{N_s}{N_p} = \frac{I_p}{I_s}$$