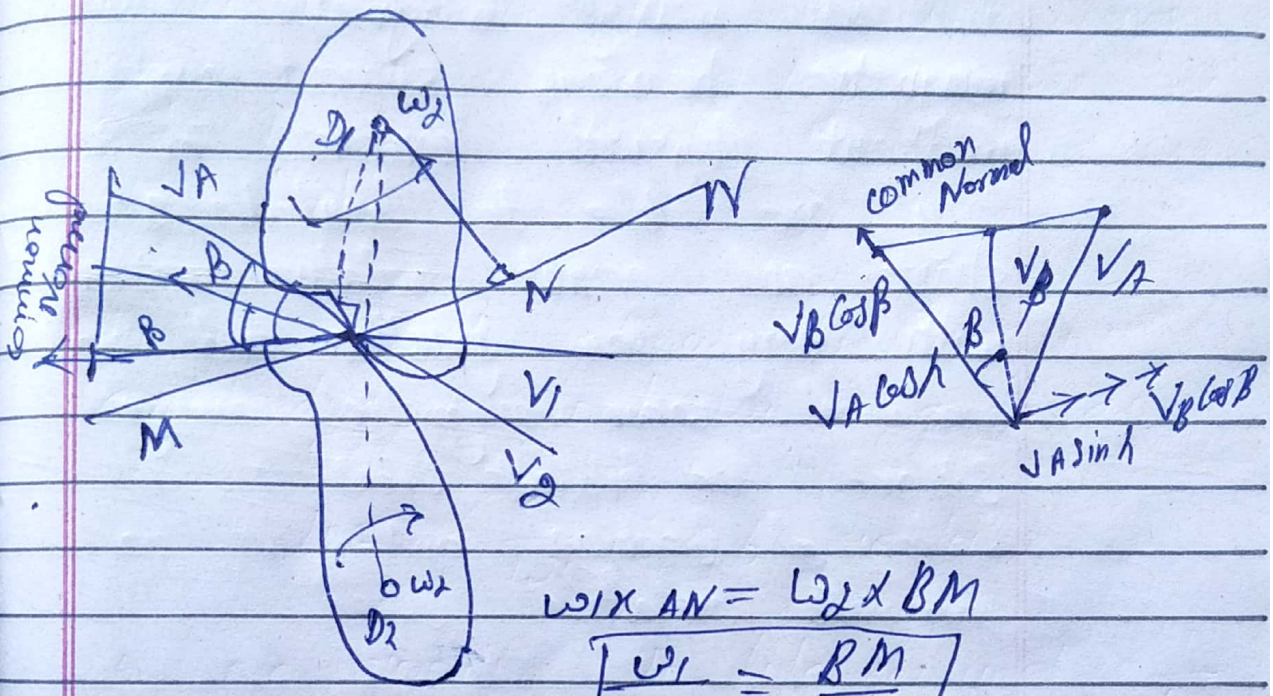
Date:
Page:

law of gearing



$$\omega_1 \times AN = \omega_2 \times BM$$

$$\boxed{\frac{\omega_1}{\omega_2} = \frac{BM}{AN}}$$

Law of gearing state that condition which must be fulfilled by the gear tooth profiles it to maintain a constant angular velocity ratio between two gear.

Relative velocity of common is zero

$$V_A\cos\delta - V_B\cos\beta = 0$$

$$V_A\cos\alpha = V_B\cos\beta$$

$$\omega_1 = \cancel{B\alpha} \times \frac{AN}{\cancel{A\alpha}} = \omega_2 \times \cancel{B\alpha} \times \frac{BN}{\cancel{B\alpha}}$$

$$\boxed{\frac{\omega_1}{\omega_2} = \frac{BM}{AN}}$$