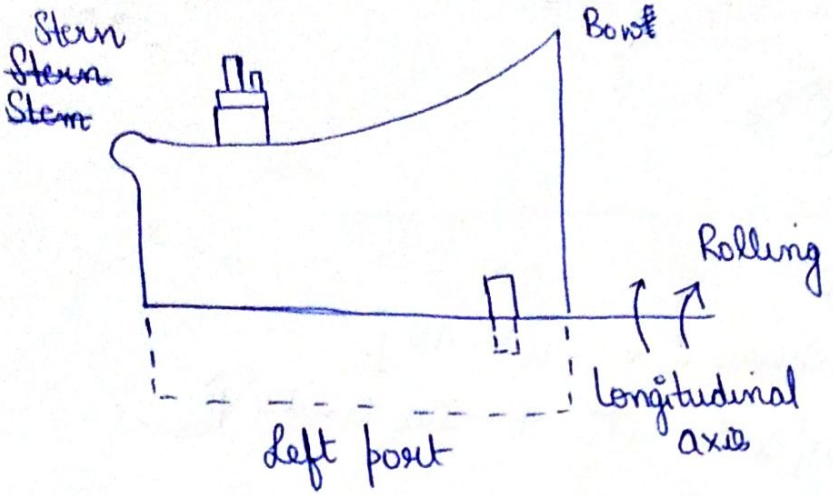
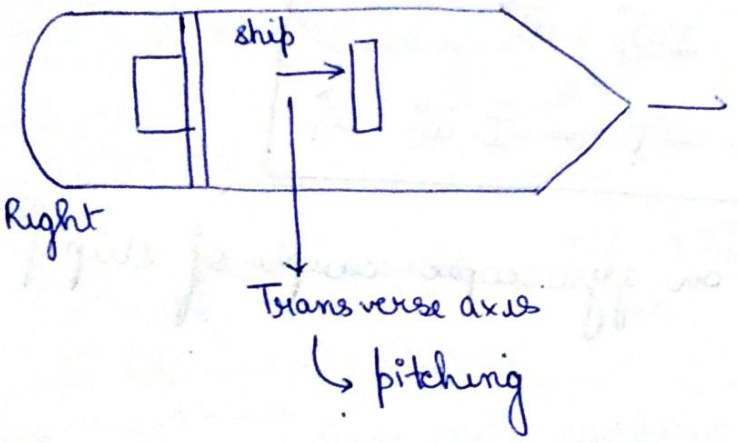
Gyroscopic effect on ship -

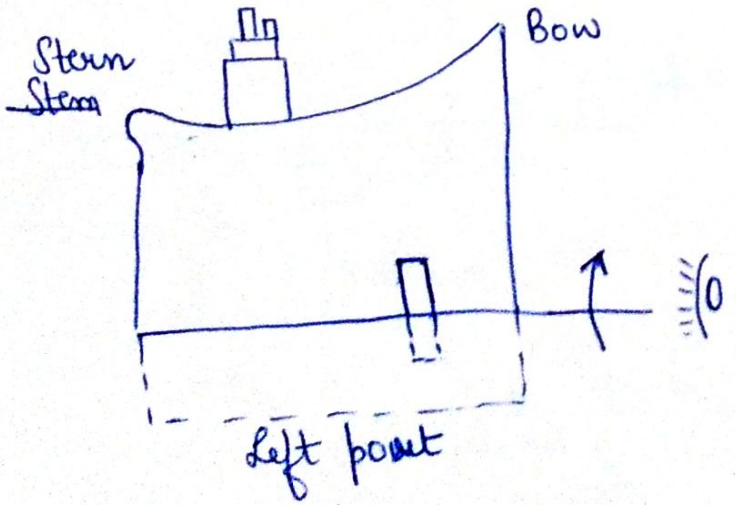


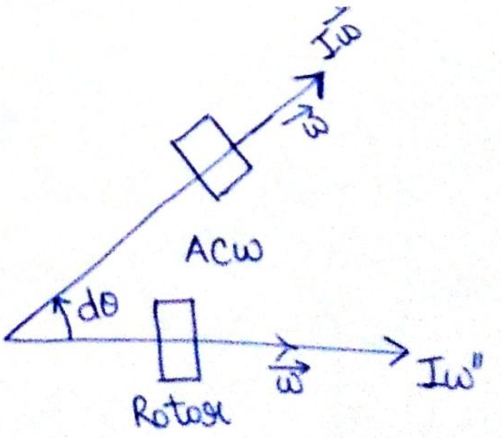
- Steering
- Pitching
- Rolling



* Gyroscopic effect during steering
* Gyroscopic effect during pitching
* Gyroscopic effect during rolling.

→ Gyroscopic effect during pitching :-

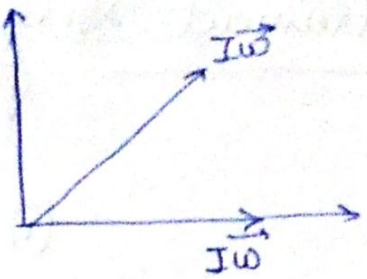




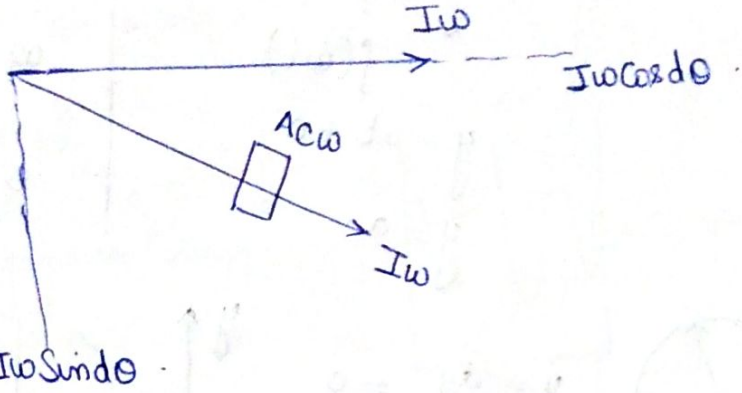
$$\vec{\Delta L} = \Delta L_x \hat{i} + \Delta L_y \hat{j}$$

$$\frac{\Delta L}{\Delta t} = I\omega \frac{d\theta}{dt}$$

$$\tau = I\omega \cdot \omega_p$$



Case-II



→ Gyroscopic effect during rolling :-

There is "NO" gyroscopic effect during rolling

→ Gyroscopic effect during steering :-