Sol:

$$I = \frac{MR^2}{2} = \frac{20 \times (0.5)^2}{2} = 10 \times 0.25$$

$$I = 2.5 \text{ kgm}^2$$

$F = 20N$, $r = 0.5\,m$, $\theta = 90°$

$$\tau = r \cdot F \cdot \sin\theta = 0.5 \times 20 \times \sin 90°$$

$$\tau = 10 \text{ Nm}$$

$$\because \quad \tau = I\alpha \Rightarrow \alpha = \frac{\tau}{I} = \frac{10}{2.5} \Rightarrow \alpha = 4 \text{ rad/s}^2$$