$$s_m = 0.120$$

1.10 *A 3-phase squirrel cage induction motor has a starting current eight tim the full load value. The full load slip is 4%. Compute the starting torq as a percentage of full load torque if the motor is started*

i. *direct on line*
ii. *by a star/delta starter*
iii. *using an autotransformer to limit the starting current to three times the full load value. What is the line current as a percentage of full load value?*

Solution Direct on line starting torque $= \left(\frac{I_{st}}{I_{fl}}\right)^2 \times s_{fl}$

$$= 64 \times 0.04 = 2.56$$

$$\text{Star}/\Delta \text{ starter} = \frac{2.56}{3} = 0.8533$$