

NAME:	STUDENT NO:		MARKS
			%
SUBJECT:	ASSIGNMENT NO:		
	SUBJECT CODE:		TUTORIAL COMMENTS
a)			
$Z_p = 4 + j7 = 8,062 \angle 60,26^\circ \Omega$			(Impedance)
$V_{\text{phase}} = \frac{18 \times 10^3}{\sqrt{3}} \quad (3\text{-phase})$			Is this needed or is 18 kV supposed to be used
$= 10\,392,31 \text{ Volts}$			
$S = V_1 I_1$			
$I_1 = \frac{S}{V_1} = \frac{3300 \times 10^3}{10\,392,31}$			
$= 317,543 \text{ A}$			
$\text{Reg} = \frac{I_1 (R_e \cos \phi + X_e \sin \phi)}{V_1}$			
$= \frac{317,543 (4 (0,8) + 7 (0,6))}{10\,392,31}$			$\cos \phi = \text{p.f.}$ $\phi = \cos^{-1}(0,8)$ $\therefore \sin \phi = 0,6$
$= 0,226 \times \frac{100}{1}$			
$= 22,6 \%$			

