

ECE471 INDUSTRIAL POWER SYSTEMS

Assignment # 3 Hints & Answers

6.4 $I_{\text{sym}} = 18.5 \text{ kA}$

6.5 $I_{\text{sym}} = 32.8 \text{ kA}$

16.2 $I_{\text{sym}} = 28.8 \text{ kA}$

16.3 $I_{\text{sym}} = 13.7 \text{ kA}$

1. $I = 6.58 \text{ A}, \quad \text{pf} = 0.854 \text{ lag}$

2. 0.752 pu

3. Only the motor and utility contribute to the fault, so leave everything else out of the 1ϕ equivalent.

In terms of symmetrical fault currents:

$$I_{\text{SYS}} = 2398 \text{ A}, \quad I_{\text{MOTOR}} = 288.7 \text{ A}, \quad I_f = 2686 \text{ A}$$