

ERRATA for
Electrical and Computer: Power Sample Questions and Solutions
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p. 62, Solution 104:

Line 1 should read as follows:

10-hp load is $50 \text{ A} \times 1.25 = 62.5 \text{ A}$ [*NEC*® Table 430.248, *NEC*® Article 430.22 (A)]

p. 63, Solution 111:

Line 6 should read as follows:

$$|V_{ab}| = 7.48 \times 10^3 \sqrt{3} = 12.95 \text{ kV}$$

p. 73, Solution 502:

The following two lines should be inserted after the second line:

$$= 21.2[\tan(\cos^{-1} 0.9)] = 10.3$$
$$Q_{old} = [\sin(\cos^{-1} 0.75)][\sqrt{3}(480)(34)] = 18.7$$

p. 76, Solution 513:

The solution should read as follows:

$$I_A \text{ (3 phase)} = I_{\text{base}} \text{ (A)} / [ZT1(\text{pu}) + ZL \text{ (pu)}]$$
$$I_{\text{base}} = S_{\text{base}} \text{ (MVA)} / [\sqrt{3} \times V_A \text{ (kV)}]$$
$$= 100 \text{ MVA} / [\sqrt{3} \times 12 \text{ kV}] = 4,811 \text{ A}$$

Distribution line impedance:

$$(0.145 \Omega/1,000 \text{ ft}) \times 5,280 \text{ ft/mi} \times 20 \text{ mi} \times [100 \text{ MVA} / (12 \text{ kV})^2] = 10.6 \text{ pu on a 100-MVA base}$$

Transformer impedance:

$$0.075 \text{ pu} \times 100 \text{ MVA} / 7.5 \text{ MVA} = 1.0 \text{ pu on a 100-MVA base}$$

$$I_A \text{ (3 phase)} = 4,811 \text{ A} / [(1.0 \text{ pu}) + (10.6 \text{ pu})] = 415 \text{ A}$$

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p. 79, Solution 529:

The solution should read as follows:

$$\text{Regulation} = \frac{|V_{NL}| - |V_{FL}|}{|V_{FL}|} = \frac{1.05 - 1.0}{1.0} = 0.05 = 5\%$$

p. 82, Solution 536:

The second equation should read as follows:

$$C = \frac{0.0388}{\log_{10}(12.57)/(0.429/12)} = 0.0152 \mu\text{F}/\text{mile}$$

p. 82, Solution 537:

The sentences following the equation should read as follows:

The capacitance, and hence charging current, per unit length varies in proportion to the logarithm of the conductor radius. The length and voltage are the only line parameters amongst the available options that vary in direct proportion with the charging current.