

# Table of Contents

<b>UNIT 12—TRANSFORMER CALCULATIONS</b> .....	335
<b>Introduction to Unit 12</b> .....	335
<b>Part A—General</b> .....	335
Introduction.....	335
12.1 Transformer Basics .....	335
12.2 Secondary Induced Voltage.....	336
12.3 Autotransformers.....	337
12.4 Power Losses.....	337
12.5 Efficiency .....	339
12.6 Delta/Delta Connected Transformers.....	339
12.7 Delta/Wye Connected Transformers .....	343
12.8 Transformer Turns Ratio.....	344
12.9 Transformer kVA Rating.....	345
12.10 Current Flow .....	346
12.11 Line Currents.....	346
<b>Part B—NEC Requirements</b> .....	350
12.12 Transformer Overcurrent Protection .....	350
12.13 Primary Conductor Sizing .....	351
12.14 Secondary Conductor Sizing.....	352
12.15 Grounding and Bonding .....	355
12.16 Available Short-Circuit Current .....	358
<b>Conclusion to Unit 12</b> .....	361
<b>Unit 12 Practice Questions</b> .....	362
<b>Unit 12 Challenge Questions</b> .....	365