Relay Training Center

NAME:

DATE:

List the three types of symmetrical components:

Which of the three symmetrical components appear in a ground fault?

Which of the three symmetrical components appear in a phase-to-phase fault?

Which of the three symmetrical components appear in a three-phase fault?

Which of the three symmetrical components appear in balanced load?

Explain how you could use a single-phase hook-up to test a three-phase current-connected Negative Sequence Over-Current Relay:

Explain how you could use a three-phase hook-up to test a three-phase current-connected Negative Sequence Over-Current Relay:

What does an IEEE Device Number 46 represent?

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Draw a PT Configuration that allows the measurement of 3V0:

Draw a CT Configuration that allows the measurement of 3I0:

Draw a phasor diagram showing 3 phase voltage of a normal balanced system:

Draw an R-X Diagram and label the axes, and the quadrants; also label the quadrants with watts and vars flow-sign:

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What is the calculation used to find Positive Sequence Current?

What is the calculation used to find Negative Sequence Current?

What is the calculation used to find Zero Sequence Current?

What is the calculation used to find Residual Current?

What is the calculation used to find the value that was measured at the input to a 59N relay?

What is the calculation used to find the value that was measured at the input to a 47 relay?

On an R-X Diagram—what does the origin represent?

Into which quadrant of an R-X Diagram would a forward fault be plotted?

Into which quadrant of an R-X Diagram would a reverse fault be plotted?

Calculate the 3I0 from the following fault current values:
IA= 450 Amps at an angle of 30 degrees lagging VA.
IB= 450 Amps at an angle of 210 degrees lagging VA.
IC= 0 Amps.