TUGAS KOMPONEN SIMETRI

11.1. If $V_{an}^{(1)} = 50\angle 0°$, $V_{an}^{(2)} = 20\angle 90°$, and $V_{an}^{(0)} = 10\angle 180°$ V, determine analytically the voltages to neutral V_{an}, V_{bn}, and V_{cn}, and also show graphically the sum of the given symmetrical components which determine the line-to-neutral voltages.

11.2. When a generator has terminal a open and the other two terminals are connected to each other with a short circuit from this connection to ground, typical values for the symmetrical components of current in phase a are $I_a^{(1)} = 600\angle -90°$, $I_a^{(2)} = 250\angle 90°$, and $I_a^{(0)} = 350\angle 90°$ A. Find the current into the ground and the current in each phase of the generator.

11.3. Determine the symmetrical components of the three currents $I_a = 10\angle 0°$, $I_b = 10\angle 230°$, and $I_c = 10\angle 130°$ A.

11.4. The currents flowing in the lines toward a balanced load connected in Δ are $I_a = 100\angle 0°$, $I_b = 141.4\angle 225°$, and $I_c = 100\angle 90°$. Find the symmetrical components of the given line currents and draw phasor diagrams of the positive- and negative-sequence line and phase currents. What is I_{ab} in amperes?

11.5. The voltages at the terminals of a balanced load consisting of three 10-Ω resistors connected in Y are $V_{ab} = 100\angle 0°$, $V_{bc} = 80.8\angle -121.44°$, and $V_{ca} = 90\angle 130°$ V. Assuming that there is no connection to the neutral of the load, find the line currents from the symmetrical components of the given line voltages.

11.6 Gambarkan rangkaian urutan nol dari gambar berikut