Comments on sequence networks

- Load tap changing (LTG) transformers
- Auto-transformers
- Position sequence phase shifts
- Standard 30° shift transformers, non-standard connections
- 3-phase transformer banks and phase shifts (ANSI/IEEE vs. IEC)
- Basic structure: winding R and leakage, core losses and saturation
- Single phase transformers

Chapter 2 - Review: Transformers and circuits w/transformers

ExMR exercises will be posted by earliest Sep 18th.

Ch. 2 Solutions posted on web page, go through them for review.

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Software: Matlab? Will begin using as early as next week.

Announcements

Topics for Today:

EE 5200 - Lecture 3

Wed Sep 4, 2009
1. Core (no-load) losses minimized by utilizing laser-scribed, super-grain-oriented silicon steel.
2. Lamination with customized to achieve a near perfect-circle core cross section, resulting in the efficient use of materials plus a lighter, more compact, high performance transformer.
3. Coil assembly rigidly braced in a high-strength frame that distributes clamping forces around the full circumference of the windings.
4. Submerged-arc welding produces deep penetration welds, virtually eliminating leakage from welded tank joints.
5. Inside tank surfaces are painted white to facilitate internal inspection.
6. Transformer exterior coated to a minimum thickness of 3 mils; this coating has superior endurance characteristics and meets the ANSI C57.12.28 standard.
7. Galvanized radiators provide excellent corrosion resistance and require minimal maintenance (fan guards and blades also galvanized).
8. Material-stabilized coils are pressure-fit within the core frame.
9. Patented DETC (De-Energized Tap Changer) features simple and compact in-line contact arrangement (patent number: 5,744,764).
10. Waukesha® Type UZD load tap changer designed to withstand up to a half-million operations without the need for contact replacement.
11. Workbox® Control Enclosure features IEC standard components and is easy to maintain and service in the field.


Test your knowledge: How many of the key features on this previous page could you identify?
\[ I_{\text{enc}} = \oint \mathbf{H} \cdot d\mathbf{r} \]

\[ \frac{H}{I_{\text{enc}}} = 2\pi r \]

\( N \phi = \Phi \)  

Amperes' Law
Electrical Magnetic

\[ \text{IN} \div \Phi \]

\[ \text{MMF} = \text{Ampere's Law} \]

Next:
Extended A.

2:9 - 2:9
A:to - 9


\[
\begin{align*}
\text{How many possible shifts are there for } & \text{ 4-y or y-4 phase shifts?} \\
12 \text{ total} & \Rightarrow 6 \text{ each}
\end{align*}
\]