

tricity long distances and to distribute electricity safely in homes, shops and factories, transformers play a vital role. A transformer has no internal moving parts. Life of a transformer starts at the factory and its performance in future life will be influenced by the care during its service period [1.1]. The working principle of a power transformer is mutual inductance between two circuits connected by common magnetic flux through a pathway of low reluctance. Two coils have great mutual inductance, and when one of the coils is associated to an alternating voltage source, an alternating flux is established in laminated core, most of which is connected with other coil in which it produces mutually induced electromagnetic flux in accordance to Faradays law of electromagnetic induction. A transformer primarily consists of three different parts: primary coil that brings the alternating current from the supply lines, the core of magnetic material in which an alternating flux is formed and the secondary coil in which electromagnetic flux is produced by the change of magnetism in the core.

When transformer's primary winding is connected to the power source (alternating current source), current will flow through the primary windings. And the alternating current flows will generate an alternating magnetic flux in the transformer core and the magnetic flux can flow to the secondary winding through the core and then delivers power to the load. Depending upon the application, both the windings may be either the high tension or low-tension winding. The windings are twisted on the magnetic circuit which is known as core. The high voltage winding involves several

# ANALYSIS AND DIAGNOSTIC OF DISTRIBUTION TRANSFORMER OIL IN LIEU OF GRID RELIABILITY

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## 1. INTRODUCTION:

A transformer is a static electrical equipment which changes one voltage level to another voltage level keeping frequency constant by using electromagnetic induction. And transformers are the maximum beneficial application ever developed by human beings. Transformers can also decrease or increase the voltage or current in alternating current networks and to lower or raise the apparent value of a capacitor, resistor and inductor. To transmit elec-