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| **Title:** | Testing of Dielectric Strength of Transformer Oil, Insulation Paper and Corona Effect of Wire | | |
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| **Abstract:** |  |
| In this research work, the dielectric strength of transformer oil and insulation paper has been tested. Besides, the corona effect (only hissing noise) of different sizes and types of wires/conductors has been tested. The total testing mechanism has been maintained according to the IEC and ASTM standard. The high voltage engineering laboratory has been used to complete the experiment and analysis. The supply of the step-up transformer has been controlled by the GDYD AC/DC Hipot tester with proper cabling and connection. A specialized insulation made vessel has been used as a chamber of the transformer oil and insulation paper. Basically, the dielectric strength testing of transformer oil has been done based on the variation of temperature and types of transformer oil. The stirring mechanism has been done manually. Insulation paper has been sliced for ensuring single slice testing. The variation of insulation has been made by increasing the number of slices of paper. The creation of arc between two electrodes and a hole in the slice has been experienced for taking and analyzing results. The corona effect for different sizes and types of wire/conductor has been tested by creating leakage current scenarios on the outer surface (insulation part) of conductors. The starting of hissing noise has been counted as the starting of  corona for that particular conductor. The variation of parameters and resultant values has been presented by graphs and analyzed explicitly. | |