

EXPERIMENT: 4

OBJECTIVE:

To study a high voltage oil test set & determine the insulating strength of pure/impure transformer oil

APPARATUS:

- (1) Manually operated oil insulation test set
- (2) Connection wires
- (3) Transformer

OPERATION:

- (1) At first connect the earth terminals to a proper earth point
- (2) Connect the power chord to the supply and close the top, the green lamp will glow up.
- (3) If the variac is not a zero position, bring it to Zero position. A clicking sound is heard at the zero position of variac
- (4) Press the 'ON' green push, the red lamp will glow up. This indicates that H.T circuits is in a position of energizing. Step "4" will happen only when the operation "3" is performed.
- (5) Rotate the variac slowly in the clock wise direction to increase the output voltage at a rate not higher than 2kv/sec
- (6) To perform withstand voltage test when the desired test voltage is reached it should be allowed to stand at test value for one minute and then reduce the voltage gradually to zero by following operation 3

OBSERVATIONS:

S.No.	Distance between electrodes	Breakdown voltage(kv)

RESULT: The graph between voltage and distance between electrodes come out in the figure. Slope of this graph gives breakdown the electric field at this point

PRECAUTIONS:

- (1) High voltage set must definitely be earthed.
- (2) Oil level must be at least 4mm above the electrodes.
- (3) The oil should be poured without slapping into the cell.