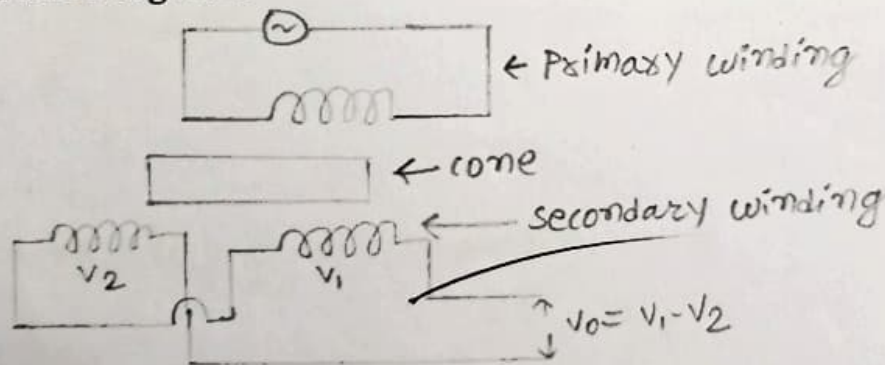


1. Aim: To study the characteristics of LVDT.

2. Apparatus:

S. No	Equipment name	Specifications & Range	Quantity
1.	LVDT	0-230V, $\pm 10$ mm	1
2.	CRO	0-230V, 30 MHz	1
3.	CRO <del>probes</del>	.....	2
4.	connecting wires	As per requirement	.....

3. Circuit Diagram:



#### 4. Steps for experiment:

1. Connect LVDT kit into mains and switch ON the supply as shown in figure.
2. Connect 'x' channel of CRO to primary winding of LVDT and 'y' channel of CRO to output of secondary winding in LVDT kit.
3. Adjust micrometer scale at "0" position in order to coincide with "0" of Vernier scale.
4. If display of displacement is not showing "0" in LVDT, adjust scale knobs to have reading equal to zero.
5. Scroll micrometer on either sides to have displacement of soft iron core on right side & left side.
6. Note down the reading of amplitude of voltage by counting number of divisions and multiply it with Volt/div from CRO for a particular displacement.

#### 5. Calculations/Theorems/Formulas used etc

#### 6. Observations/Discussions:

The graph of voltage amplitude vs displacement of LVDT is a linear curve but it makes an intercept on y-axis which signifies the concept of residual magnetism.

S.NO	positive displacement (mm)	Voltage
1.	1.47	$2 \times 1 = 0.2V$
2.	3.78	$4 \times 1 = 0.4V$

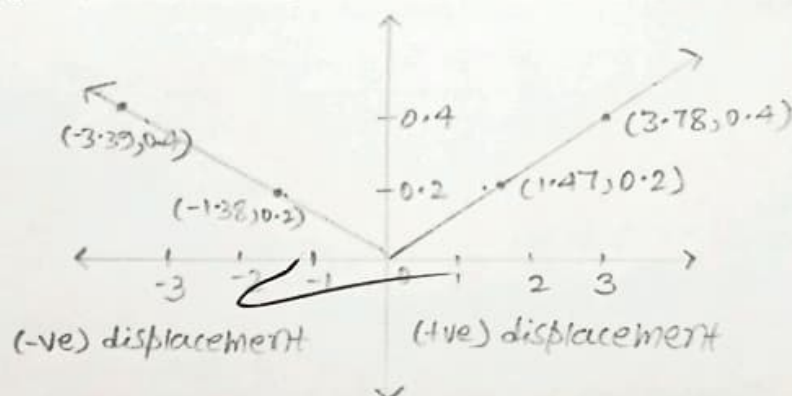
S.NO	negative displacement	Voltage
1.	-1.38	$2 \times 1 = 0.2V$
2.	-3.39	$4 \times 1 = 0.4V$

#### 7. Percentage error (if any or applicable): N.A

### 8. Result/Output/Writing Summary:

The difference in comparison of voltage amplitude values at positive and negative displacement should be analyzed and resulting difference if any, in both sets of readings is likely due to various sources of error.

### 9. Graphs (If Any): Image/Soft copy of graph paper to be attached here



### Learning outcomes (What I have learnt):

1. Measure the value of voltage with the help of CRO.
2. Design the circuit with the help of CRO and LVDT.
3. Determine the value of voltage for positive displacement.
4. Determine the value of negative displacement.
5. Measure the value of voltage with the help of CRO.



### Evaluation Grid:

Sr. No.	Parameters	Marks Obtained	Maximum Marks
1.	Worksheet completion including writing learning objectives/Outcomes.(To be submitted at the end of the day).	09	10
2.	Post Lab Quiz Result.	03	8
3.	Student Engagement in Simulation/Demonstration/Performance and Controls/Pre-Lab Questions.	12	12
	Signature of Faculty (with Date):	Total Marks Obtained: 24	

