Experiment No.-5 (2.2)

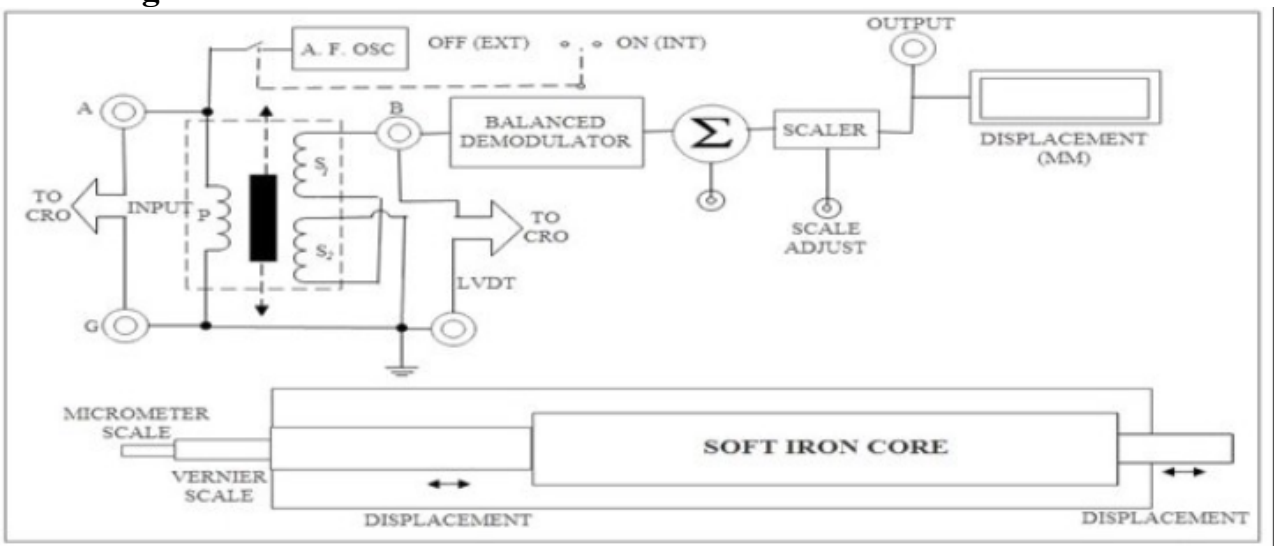
Student Name: **UID:**
Branch: CSE- **Date of Performance:**
Subject Name: BEEE **Subject-code:**

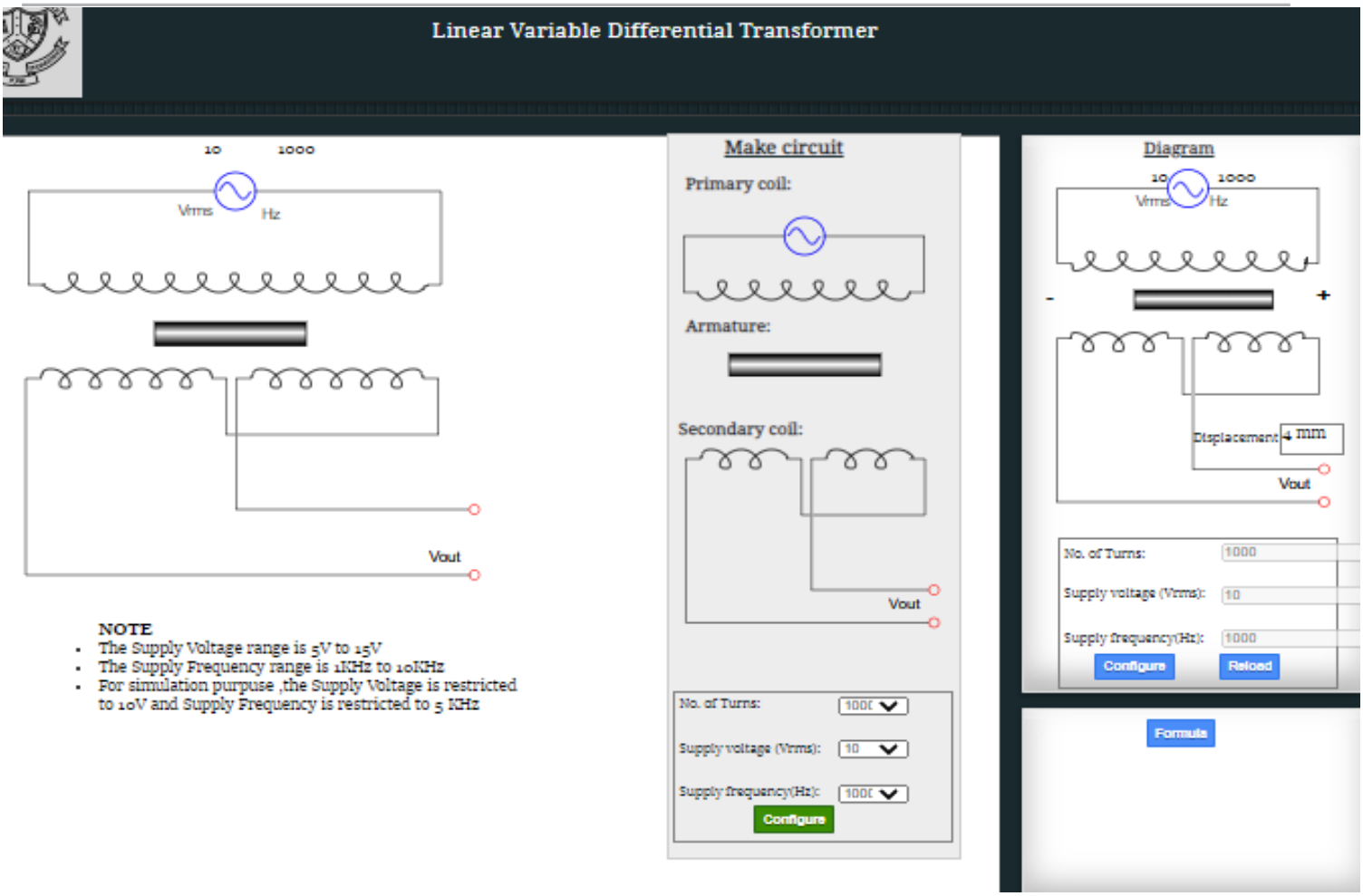
1. Aim: To study working of Linear Variable Differential Transformer or Linear Variable Displacement Transducer (LVDT).

2. Apparatus:

SR. NO.	Equipment Name	Specifications and Range	Quantity in numbers
1.	LVDT kit	0 - 230 V, ±10 mm	1
2.	CRO	0 - 230 V, 30 MHZ	1
3.	CRO Probes	------	2

3. Circuit Diagram:





4. Steps for experiment:

- **First arrange all the required components for the given experiment as per mentioned in the apparatus part.**
- **Then connect the components as per shown in the circuit diagram.**
- **Then set the required parameters like frequency, voltage, etc on CRO or on given website (for online).**
- **For the given, we must do the displacement and observe the graph and find the respective voltage at that displacement.**
- **When the connections are done and parameters are set then, observe the waveform as shown on the screen and observe two or three readings on respective displacement done.**
- **Thus, at the end, the readings and the graph nature are done. Therefore, exp. ends.**

5. Calculations/Theorems /Formulas used etc: NIL

6. Observations/Discussions: For Positive Displacement:

Sr. No.	Meter Scale Reading	Positive Displacement (mm)	Voltage Amplitude(mV)
1.	------	1	17.45
2.	------	2	34.77
3.	------	3	51.82
4.	------	4	68.48
5.	------	5	84.62

For Negative Displacement:

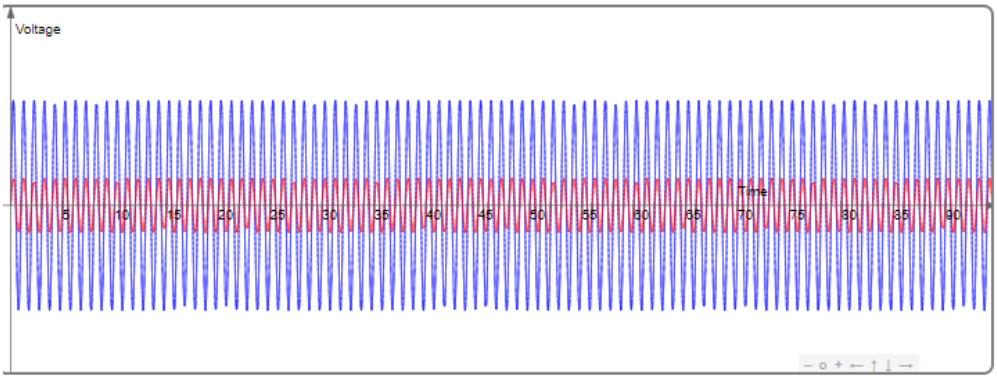
Sr. No.	Meter Scale Reading	Negative Displacement (mm)	Voltage Amplitude(mV)
1.	------	-1	17.45
2.	------	-2	34.77
3.	------	-3	51.82
4.	------	-4	68.48
5.	------	-5	84.62

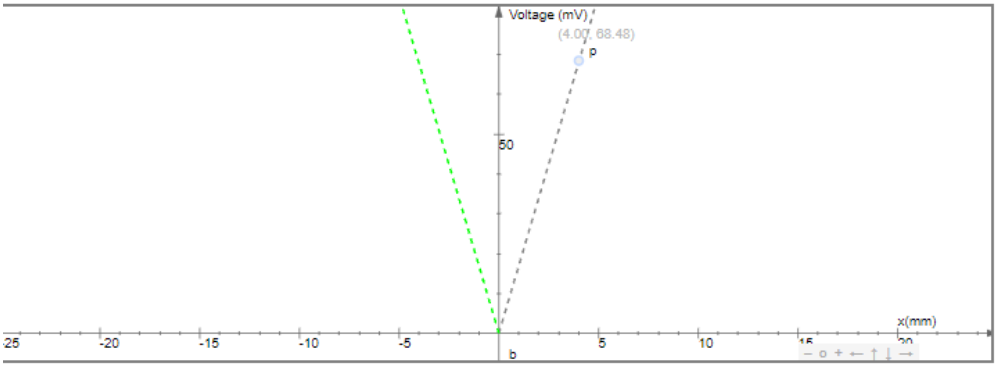
7. Percentage error (if any or applicable): NIL

8. Result/Output/Writing Summary:

The difference in comparison of voltage amplitude values at positive and negative displacement Should be analysed and resulting difference if any.

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


Voltage
Time


Voltage (mV)
(4.07, 68.48)
p
50
x(mm)
b

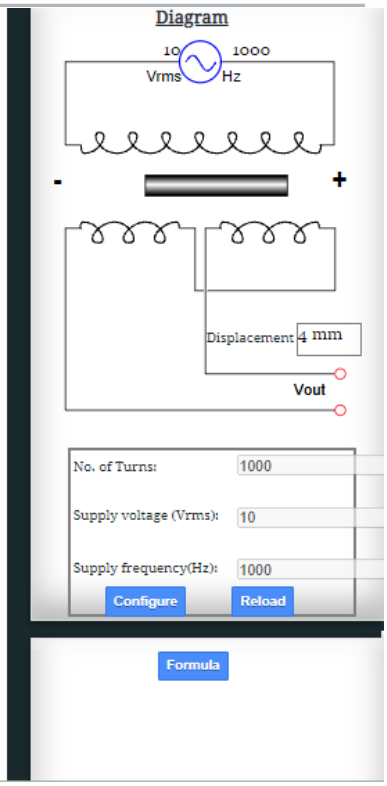
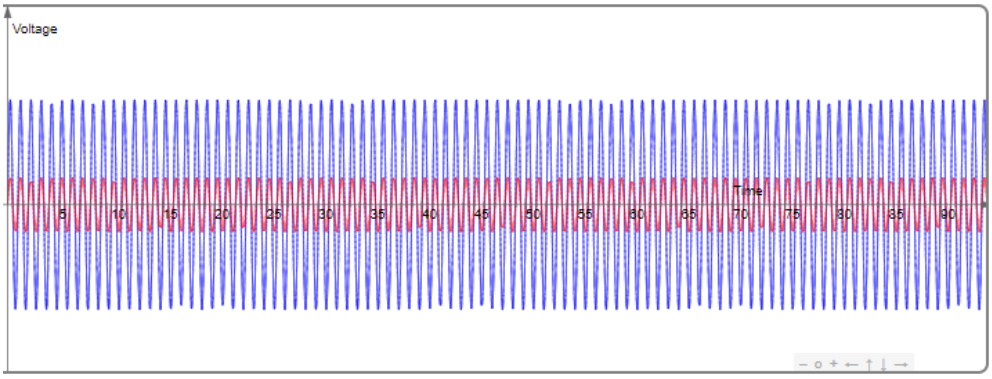
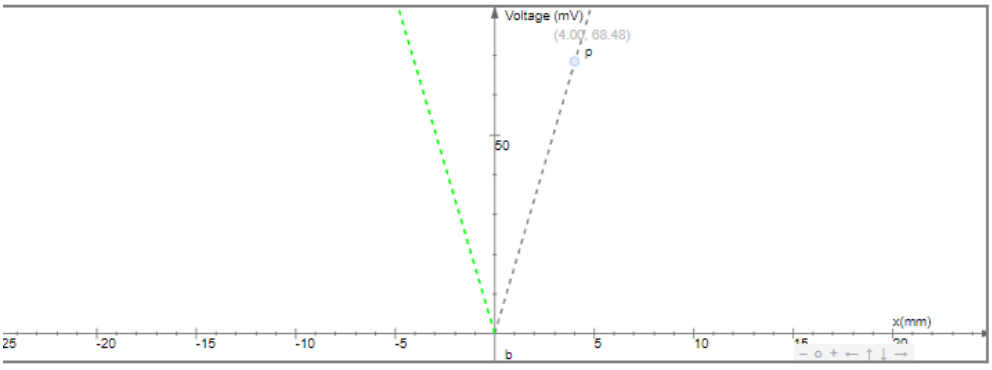


Diagram
10
Vrms
1000
Hz
-
+
Displacement
4 mm
Vout
No. of Turns:
1000
Supply voltage (Vrms):
10
Supply frequency(Hz):
1000
Configure
Reload
Formula


Voltage
Time


Voltage (mV)
(4.07, 68.48)
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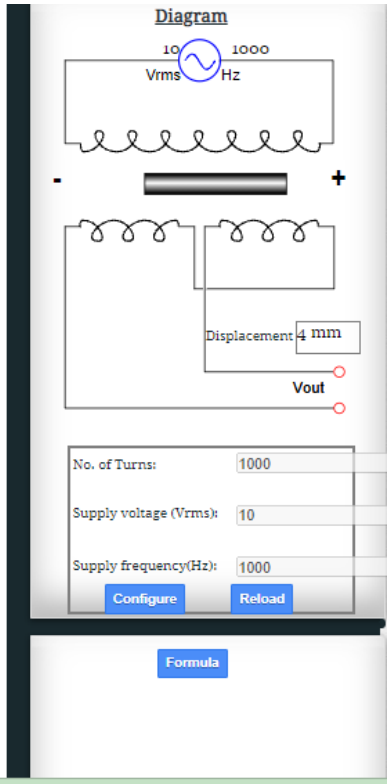
Diagram
10
Vrms
1000
Hz
-
+
Displacement
4 mm
Vout
No. of Turns:
1000
Supply voltage (Vrms):
10
Supply frequency(Hz):
1000
Configure
Reload
Formula

Learning outcomes (What I have learnt):

1. **Connection of the components through circuit diagram.**
2. **Working of the LVDT.**
3. **Practically learnt the working of LVDT.**

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).		10
2.	Post Lab Quiz Result.		5
3.	Student Engagement in Simulation/Demonstration/Performance and Controls/Pre-Lab Questions.		5
	Signature of Faculty (with Date):	Total Marks Obtained:	