EEE Digital Assignment

Lamp Dimmer Circuit
(Darlington Pair)

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Slot: L10+L11

Batch: 10(B-Tech Computer Science (Core))

Lamp Dimmer Circuit (Darlington Pair)

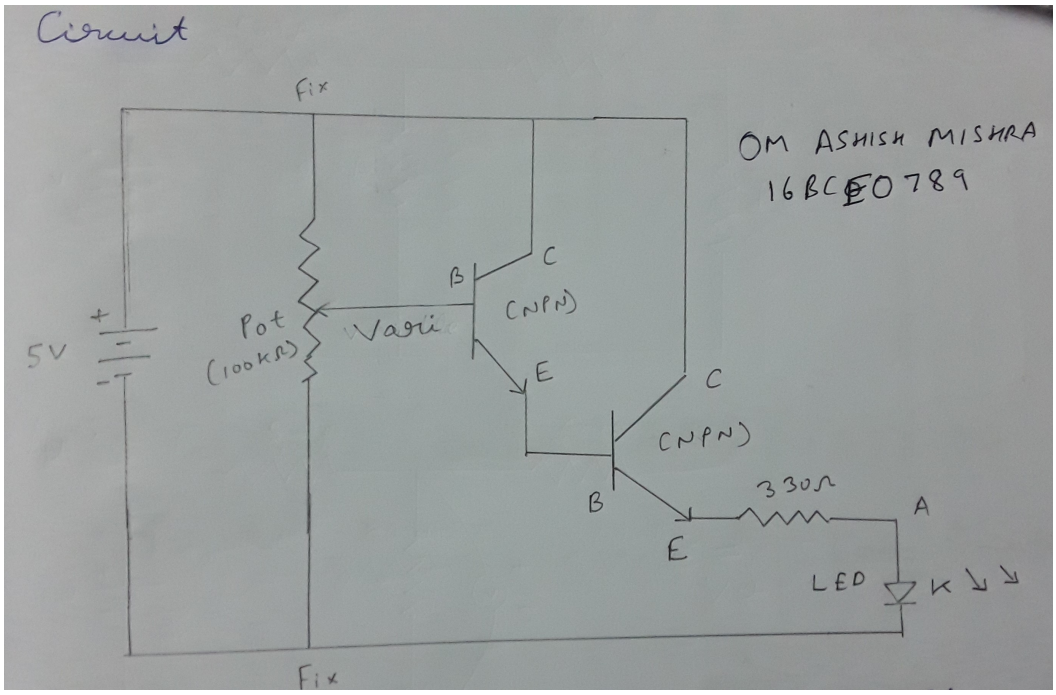
AIM:

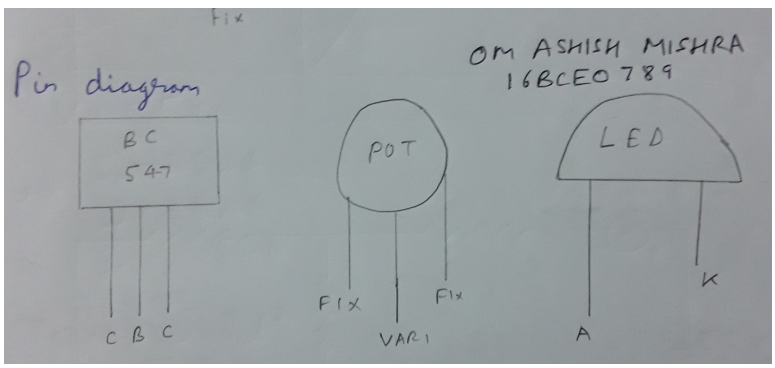
To design a circuit to vary the intensity of the lamp using Darlington pair of BJT.

APPARATUS REQUIRED:

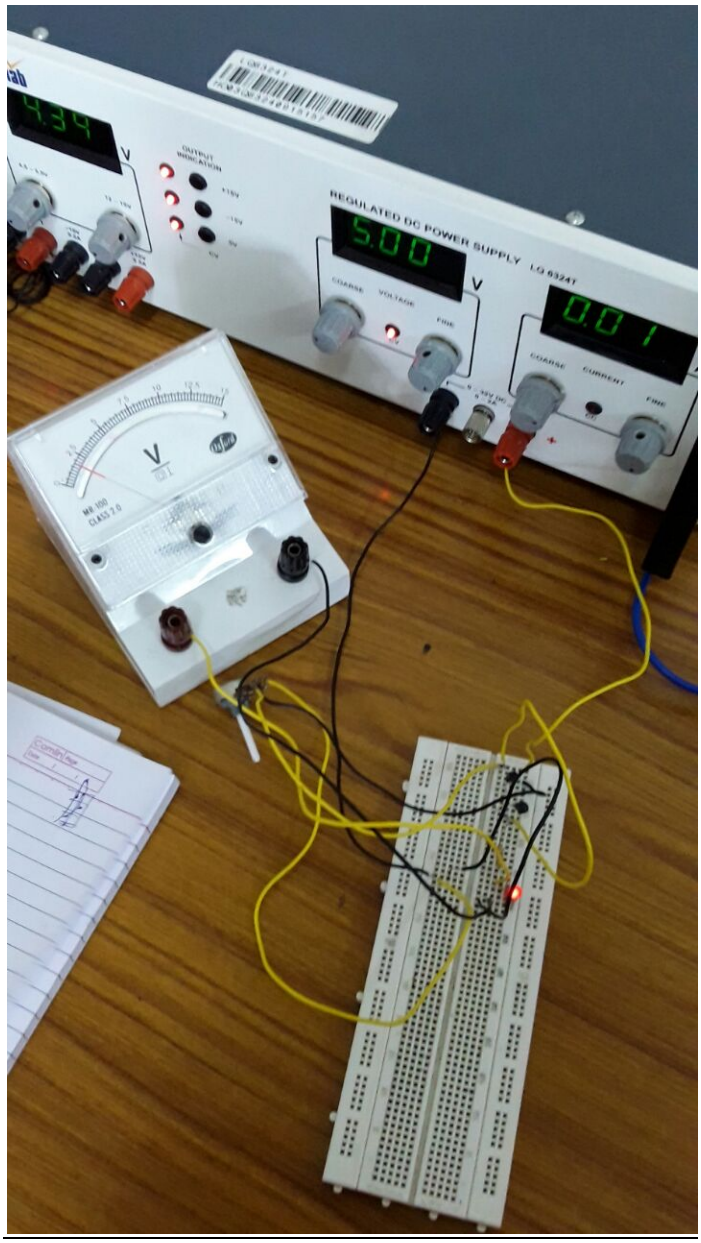
- A 5V supply
- 2 BJTs of NPN type (Bipolar Junction Transistor)
- A LED (Light Emitting Diode)
- Variable Resistance(POT) of 100 kΩ
- Connecting wires
- A resistance of 330Ω

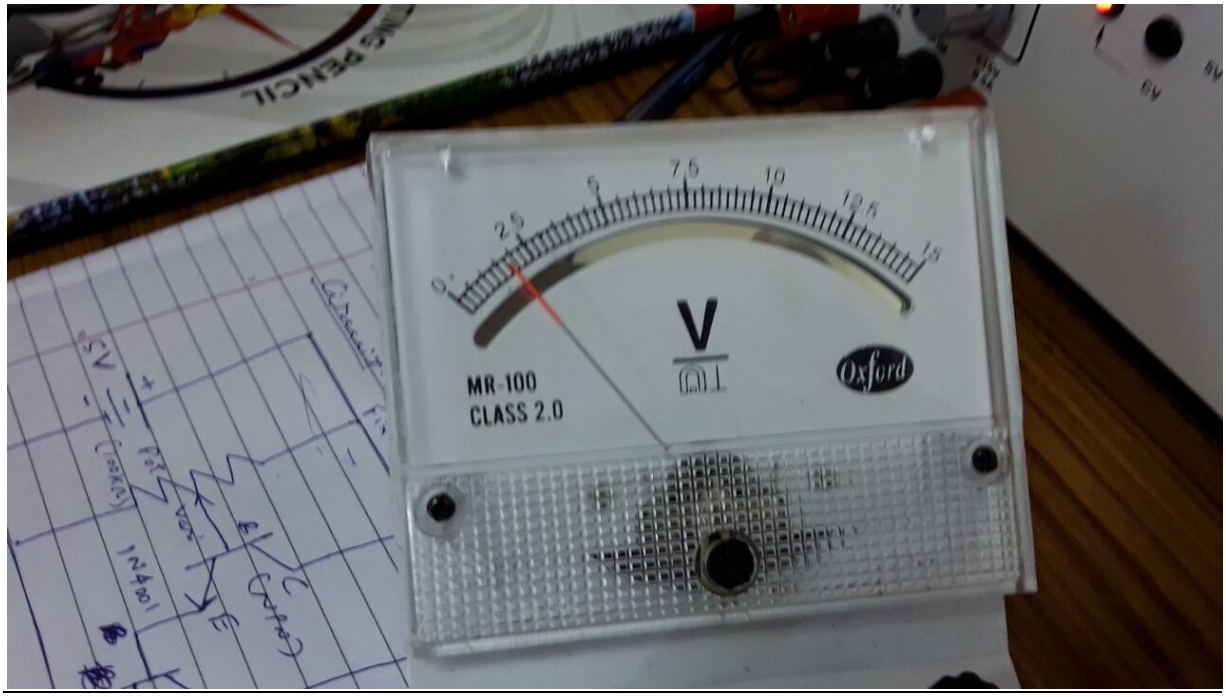
CIRCUIT DIAGRAMS:

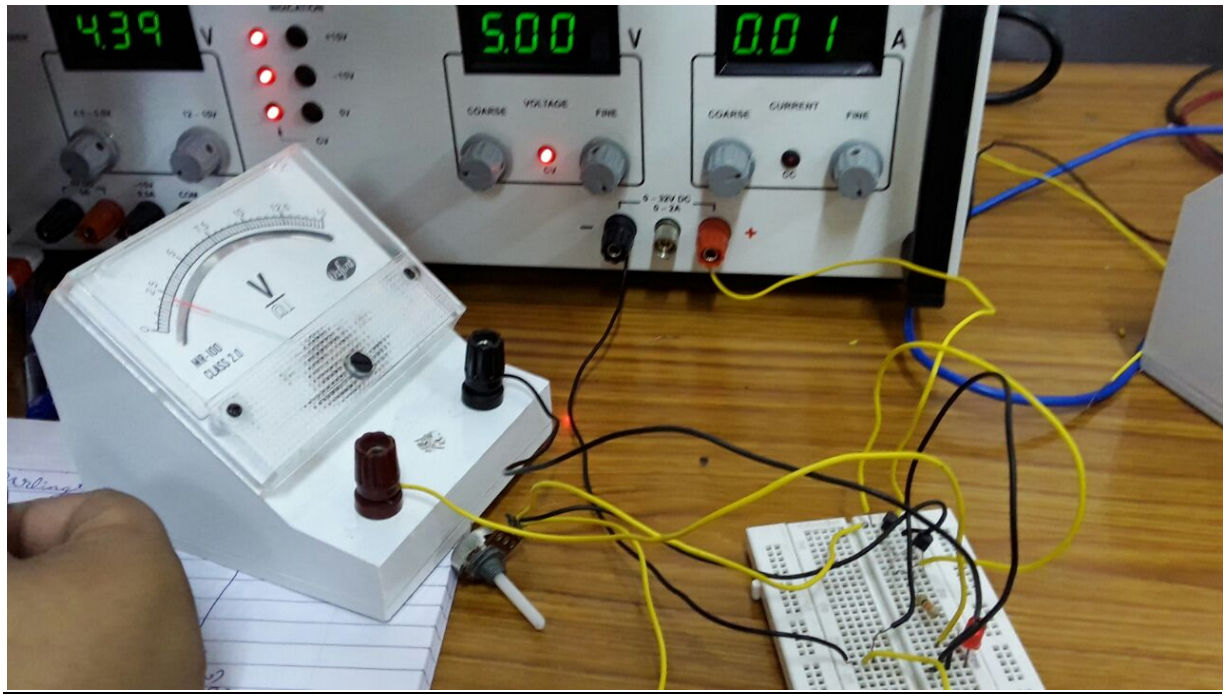


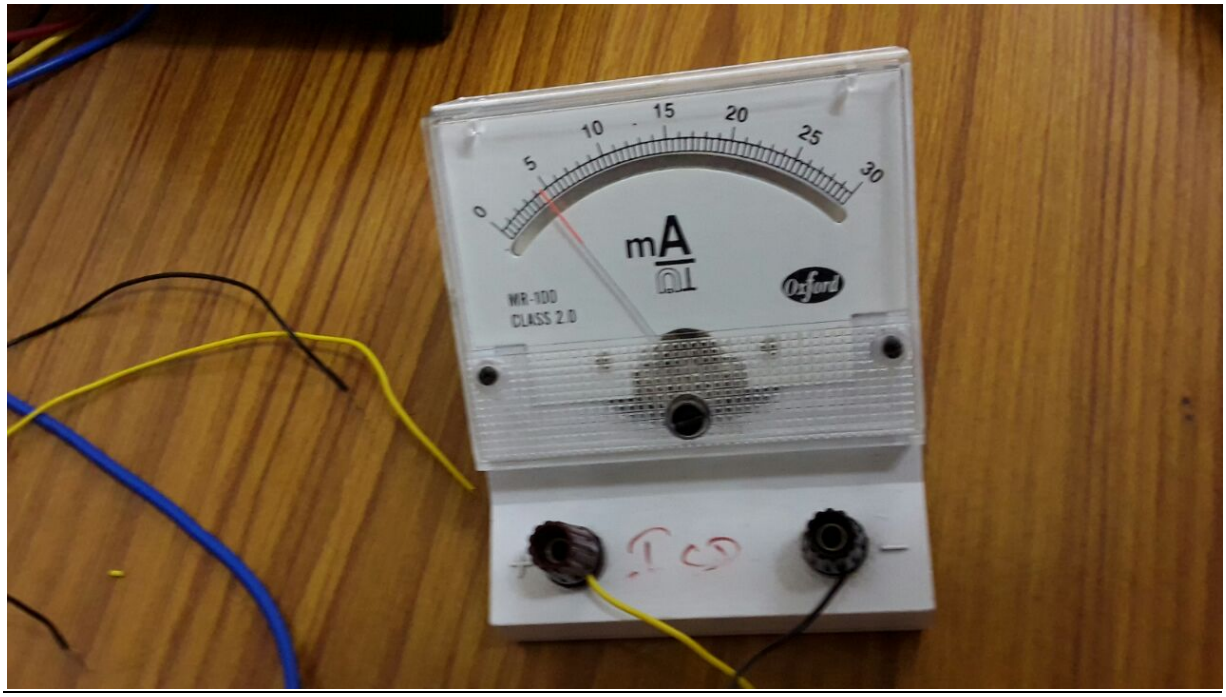


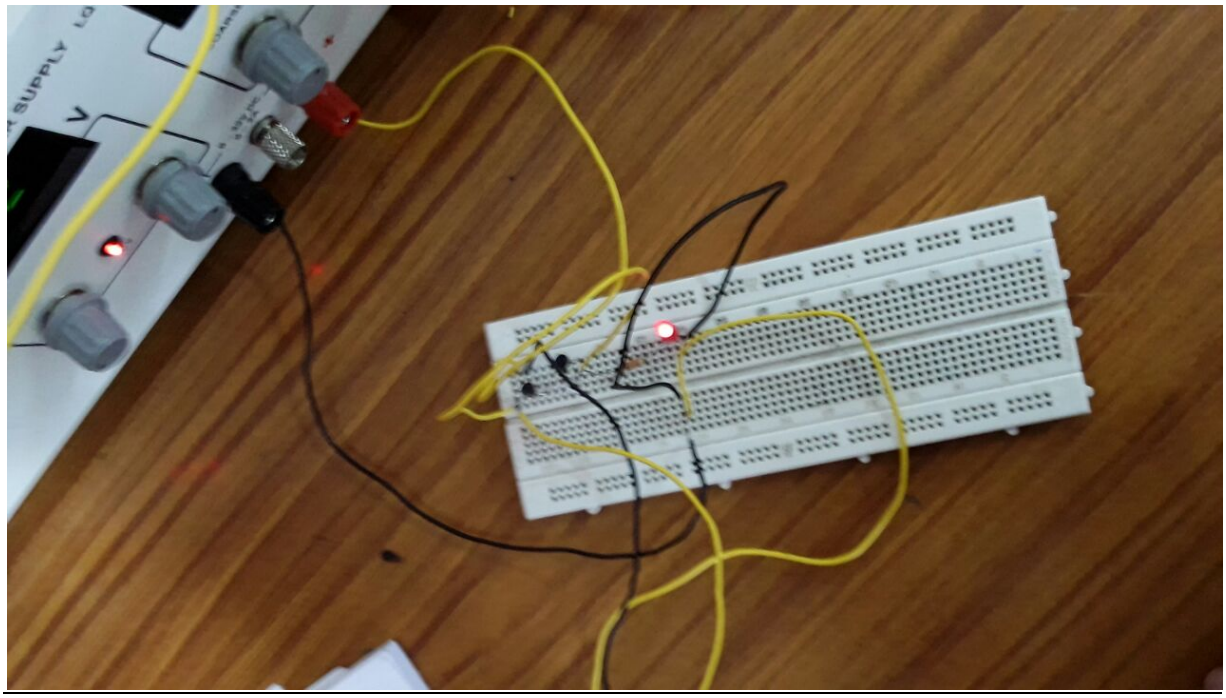
PICTURE OF BREADBOARD CONNECTION:




MR-100
CLASS 2.0
Oxford
1N4001


4.39
5.00
0.01
COARSE
VOLTAGE
FINE
COARSE
CURRENT
FINE
MR-100
CLASS 2.0


0
5
10
15
20
25
30
mA
MR-100
CLASS 2.0
Oxford
+
−


SUPPLY

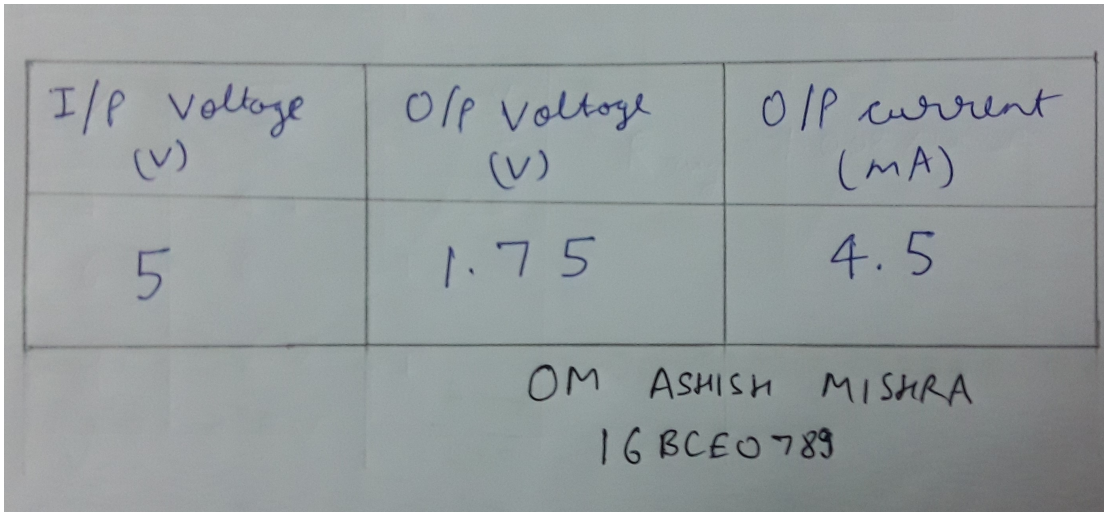
MANUAL CALCULATION(S) / ROUGH WORK:

No Manual Calculations were done in this experiment.

GRAPH:

No graph has been done for this experiment.

TABULATION:



I/P Voltage (V)	O/P Voltage (V)	O/P current (mA)
5	1.75	4.5

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INFERENCE / RESULT:

In this experiment we can vary the intensity of the lamp using Darlington pair of BJT. Thus we learn to use BJT, LED and the variable POT resistance.