

CONTROLLED BY MAIN SWITCH No 1

ANY RUBBER OR OTHER MATERIALS OF THIS BENCH

DANGER 300 VOLTS.

240V G.P.O.

240V G.P.O.

240V MAIN SWITCH No 1

240V MAIN SWITCH

240V G.P.O.

NEUTRAL

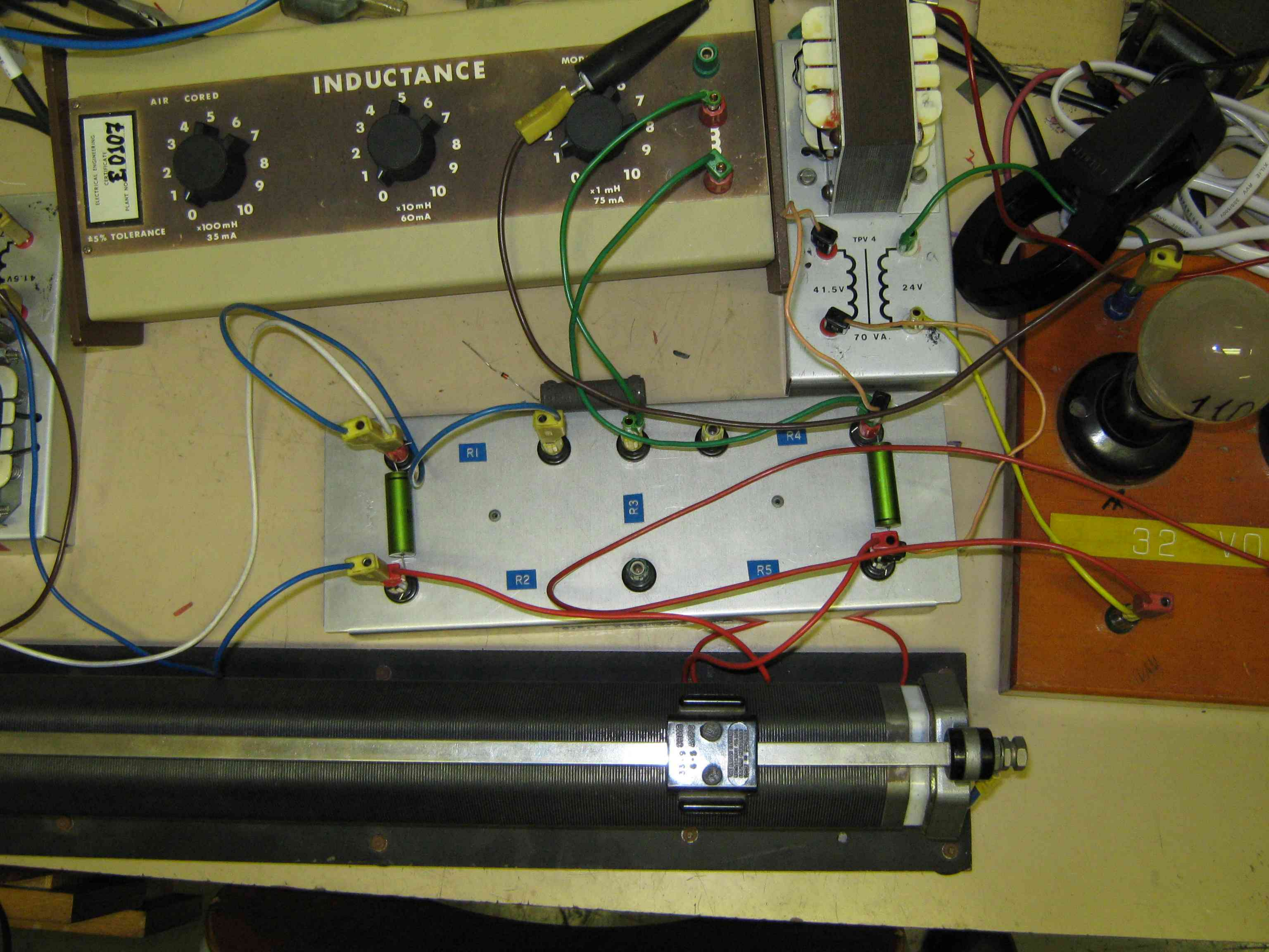
EARTH

240V 3

INSTRANCE

110 VOLTS

32



INDUCTANCE

AIR CORED

FORCE
ELECTRICAL ENGINEERING
CERTIFICATE
PLANT NO.

±5% TOLERANCE

x100mH
35 mA

x10mH
60mA

x1 mH
75 mA

TPV 4
41.5V 24V
70 VA.

R1

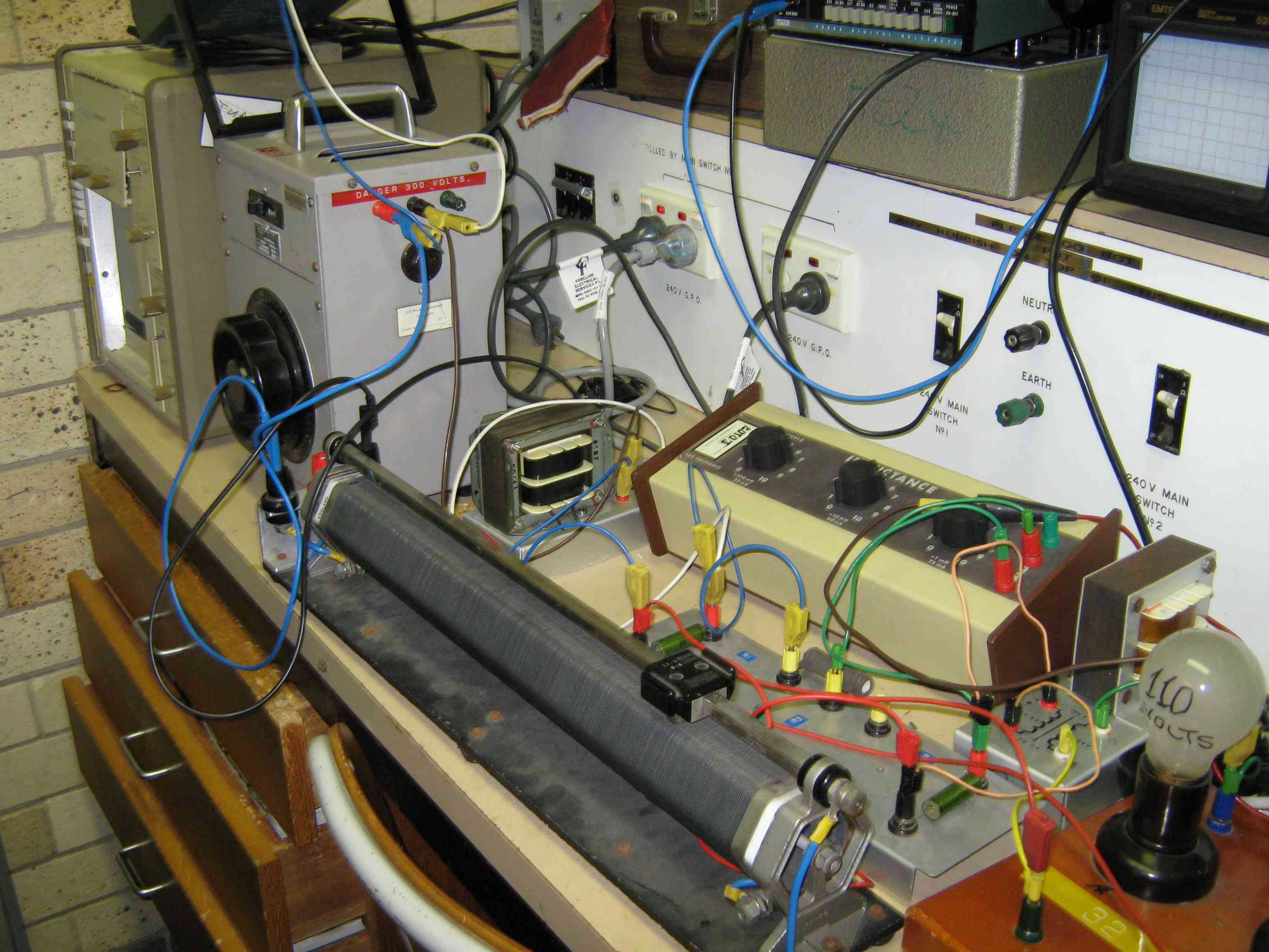
R3

R2

R5

R4

32 V



240 V G. P. O.

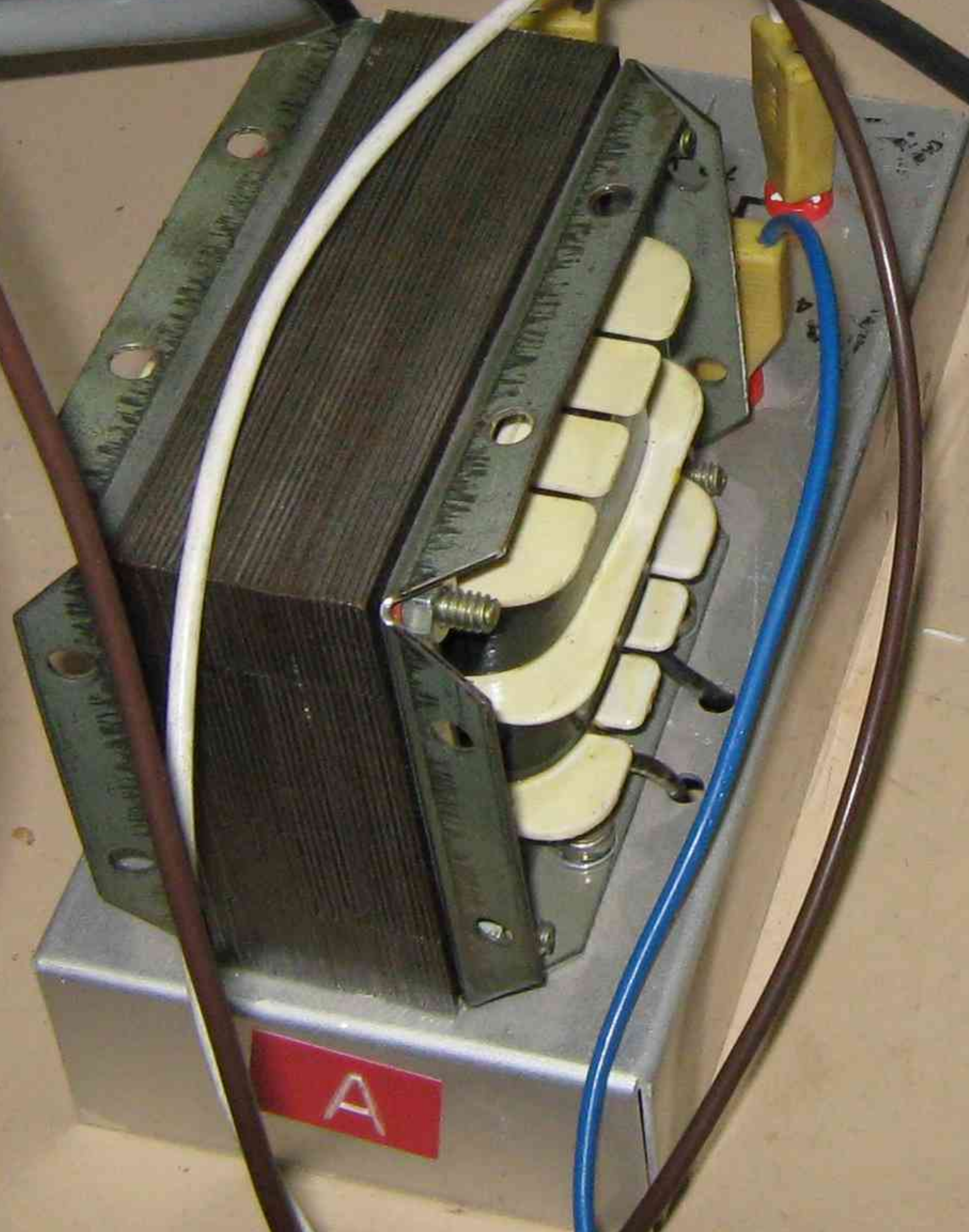
240 V MAIN
SWITCH
No 1

ELECTRICAL ENGINEERING
CERTIFICATE
PLANT NO. **20107**

±5% TOLERANCE

AIR CORE
0 1 2 3 4 5 6 7 8 9 10
x100mH
35 mA

INDUCTANCE
0 1 2 3 4 5 6 7 8 9 10
x10mH
60mA

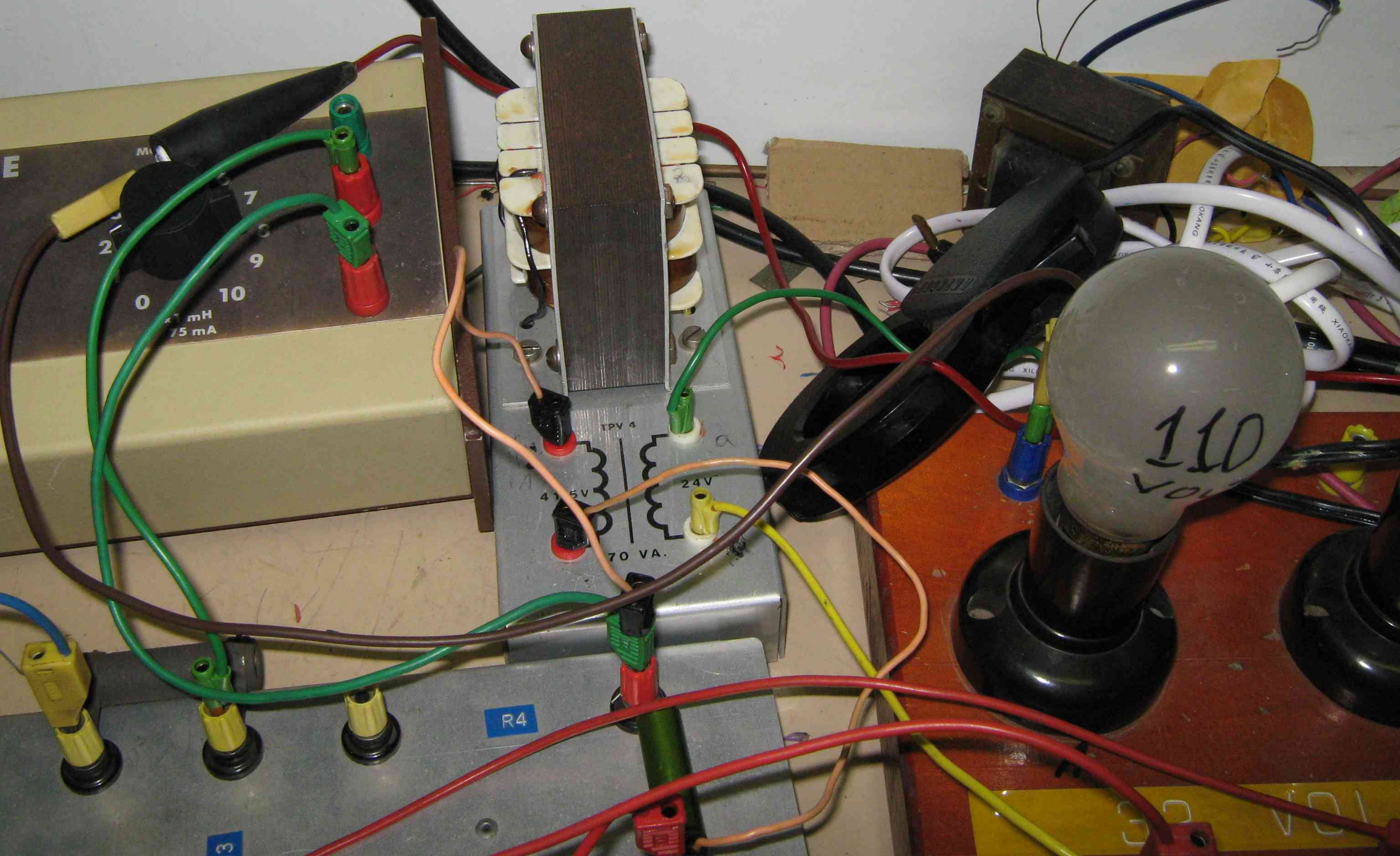


ARTH

24 V MAIN
SWITCH
No.

240 V G.P.O.

240V G.P.



E

MI

7

9

10

75 mA

TPV 4

415V

24V

70 VA.

R4

110
VOLT

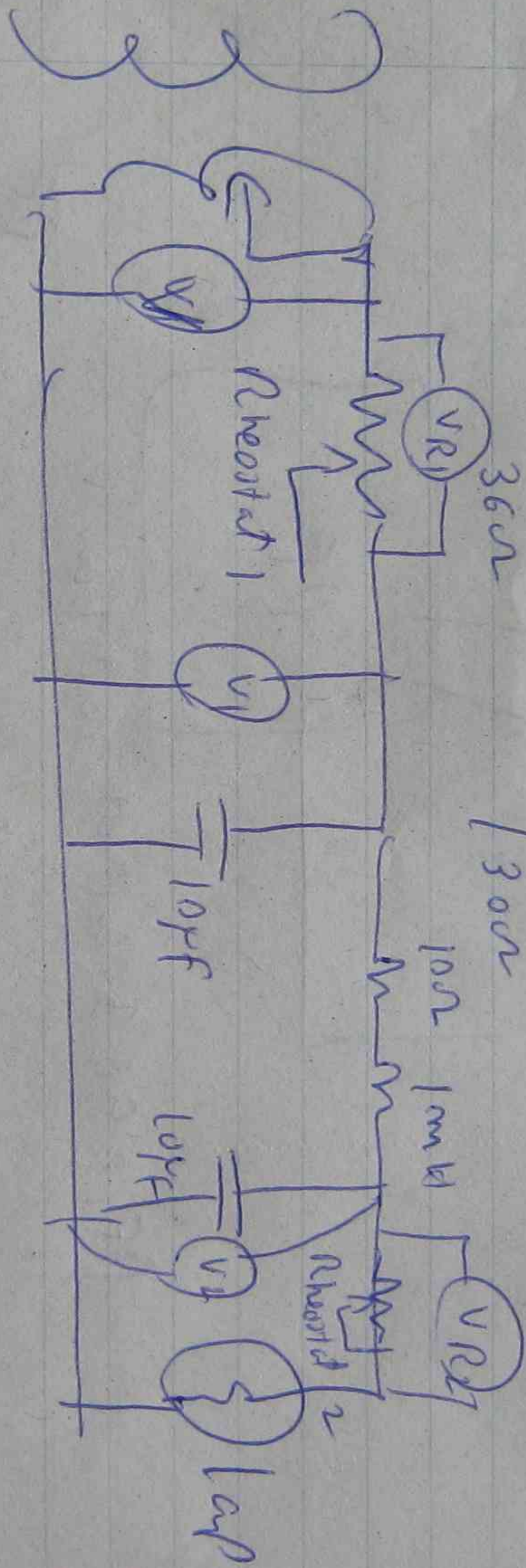
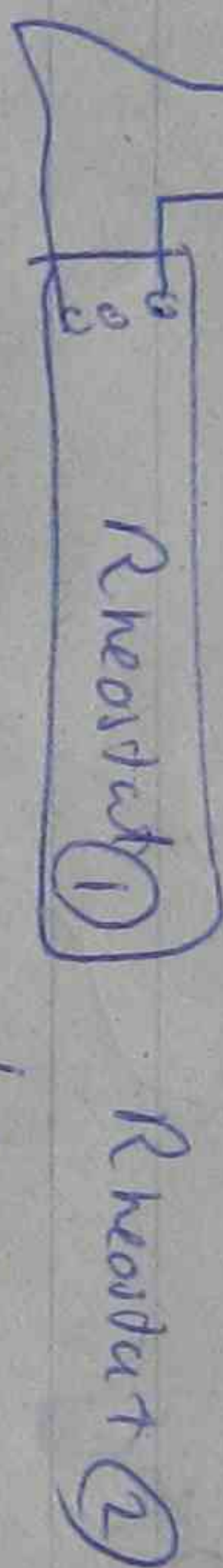
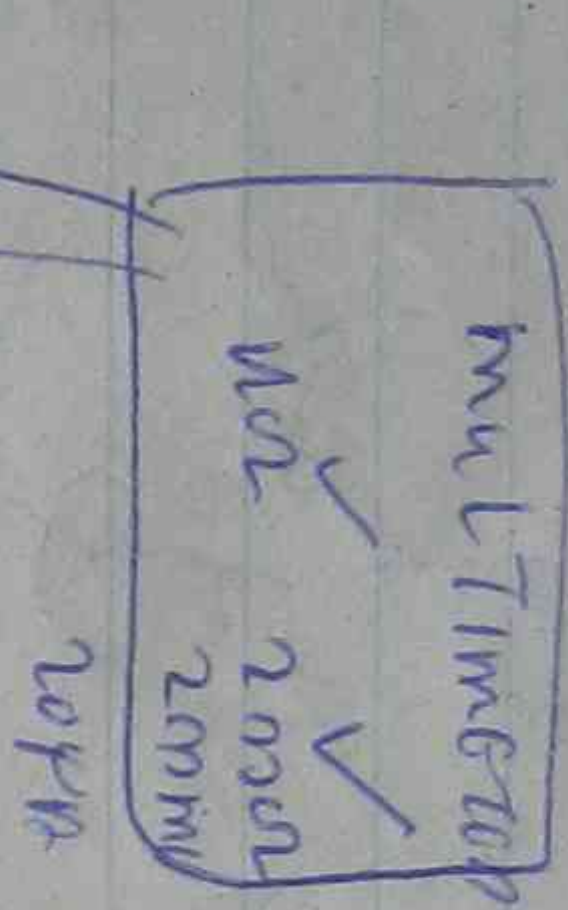
3

30 VOLT

C-PA

Line Efficiency

% Regulation



~~V = 18.5V~~
V = 24V

V = 24V

~~PF = 99.9~~

V₁ = 18.5V

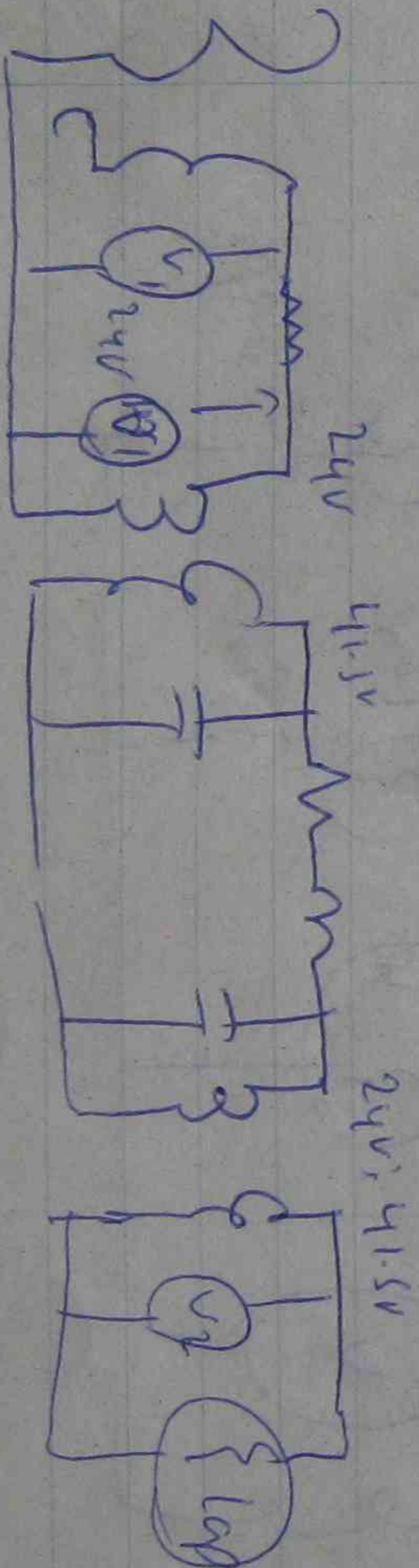
PF = 0.99

V₂ = 16.3V

PF = 99.9

Line Loss = 12

$$\% \text{ Reg} = \frac{18.5 - 16.3}{16.3} = \frac{2.2}{16.3} \%$$



V₁ = 13.9V

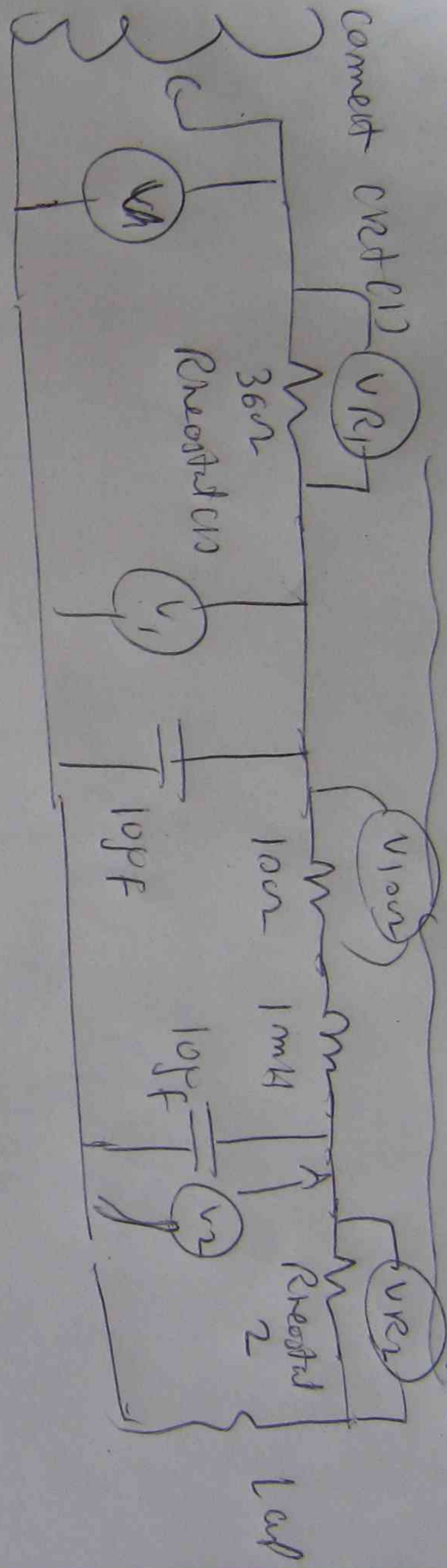
V₂ = 12.6V

∴ Addl - 13.9 - 12.6 = 1.3V

Exp 4

Power sys Tcm operation

Line Efficiency & effect of step up/down



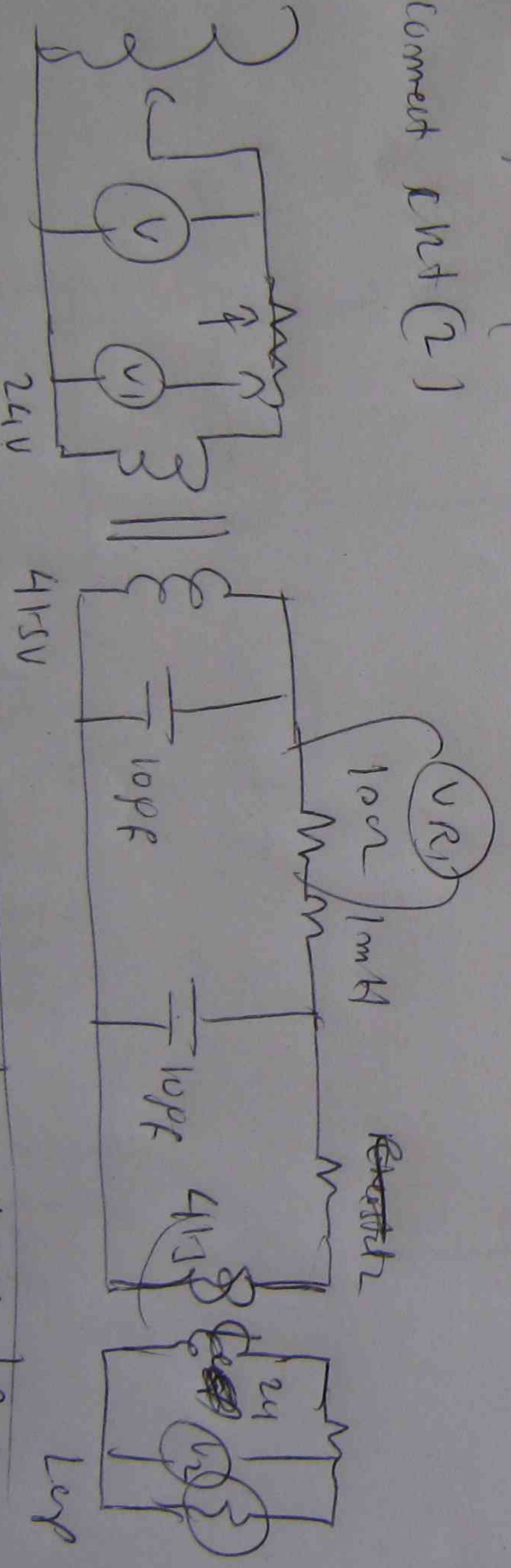
Set $V = 24V$

Take readings of V_1 & V_2

Measure $V_{100\Omega}$ line
calculate Power loss in line

V	V_1	V_2	$\% Reg = \frac{V_1 - V_2}{V_1}$	$V_{100\Omega}$	$I = \frac{V_{100\Omega}}{100\Omega}$	Power loss in line $= I^2 \times 100$

Connect $Ckt (2)$



V	V_1	V_2	$\% Reg = \frac{V_1 - V_2}{V_1}$	$V_{100\Omega}$	$I = \frac{V_{100\Omega}}{100\Omega}$	Power loss in line $= I^2 \times 100$

Compare $\% Reg$ & line loss.