

ELECTRICAL TECHNOLOGY

V-LAB FILE

NAME-VARTIKA

ROLL NO-1623020

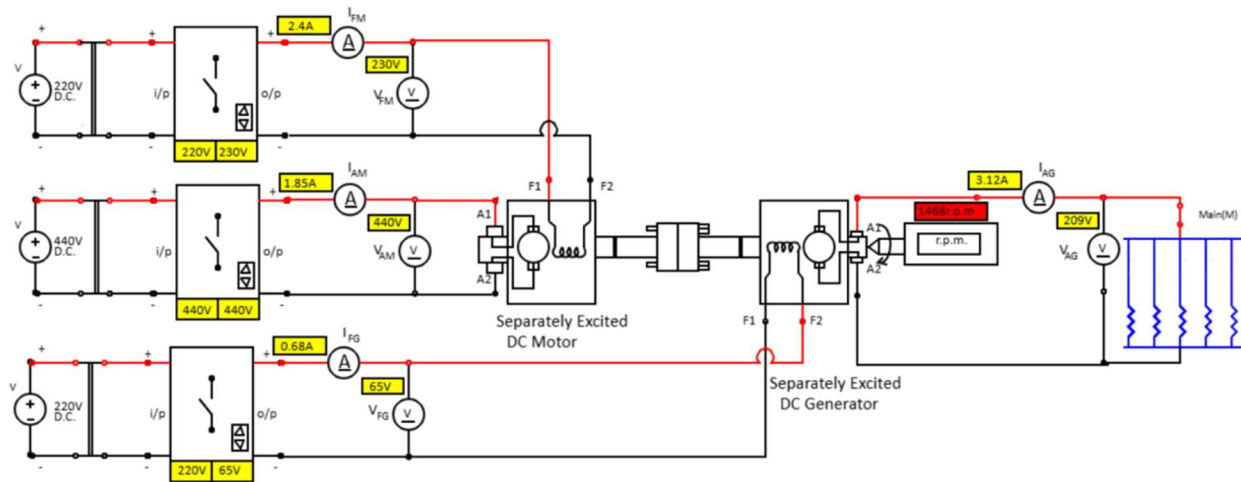
EXAMINATION ROLL NO- 23079558043

SUBMITTED TO- DR. NUTAN KALA JOSHI

EXPERIMENT-1

AIM: Load test on separately excited DC motor

Circuit:



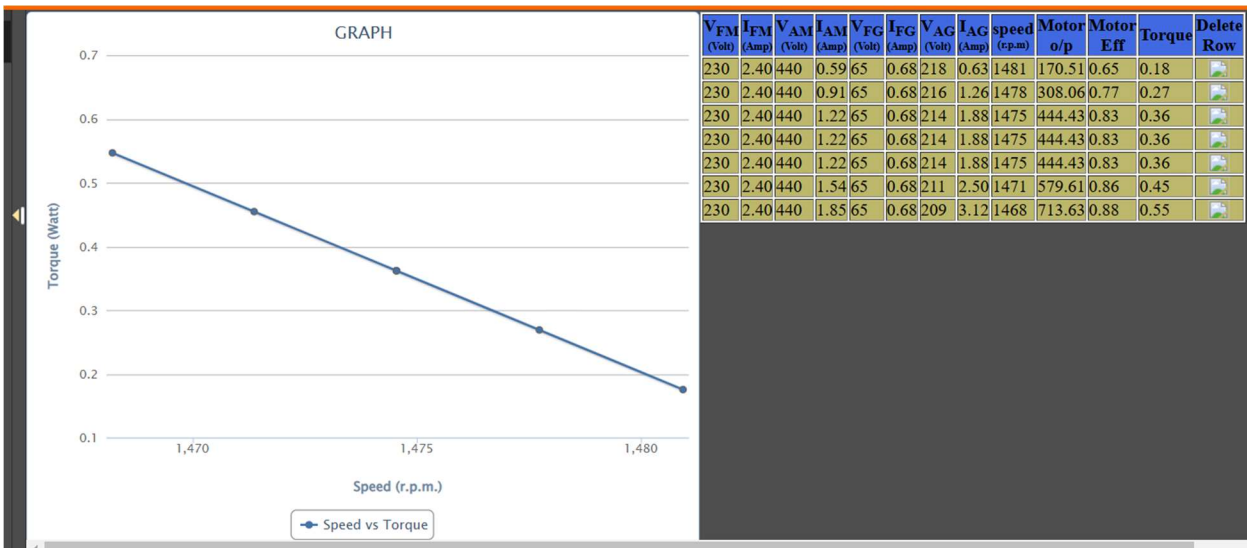
Separately Excited DC Motor / Separately Excited DC Generator Ratings :

Field Voltage (max) = 220V
Armature Voltage (max) = 440V
Capacity = 5 HP
DC Field Current(max) = 2.3 Amp
Armature Current(max) = 9.5 Amp
Speed = 1500-2000 R.P.M.

Abbreviations:

V_{FM} = Separately Excited DC Motor field voltage
 I_{FM} = Separately Excited DC Motor field current
 V_{AM} = Separately Excited DC Motor Armature voltage
 I_{AM} = Separately Excited DC Motor Armature current
 V_{FG} = Separately Excited DC Generator field voltage
 I_{FG} = Separately Excited DC Generator field current
 V_{AG} = Separately Excited DC Generator Armature voltage
 I_{AG} = Separately Excited DC Generator Armature current

Output:

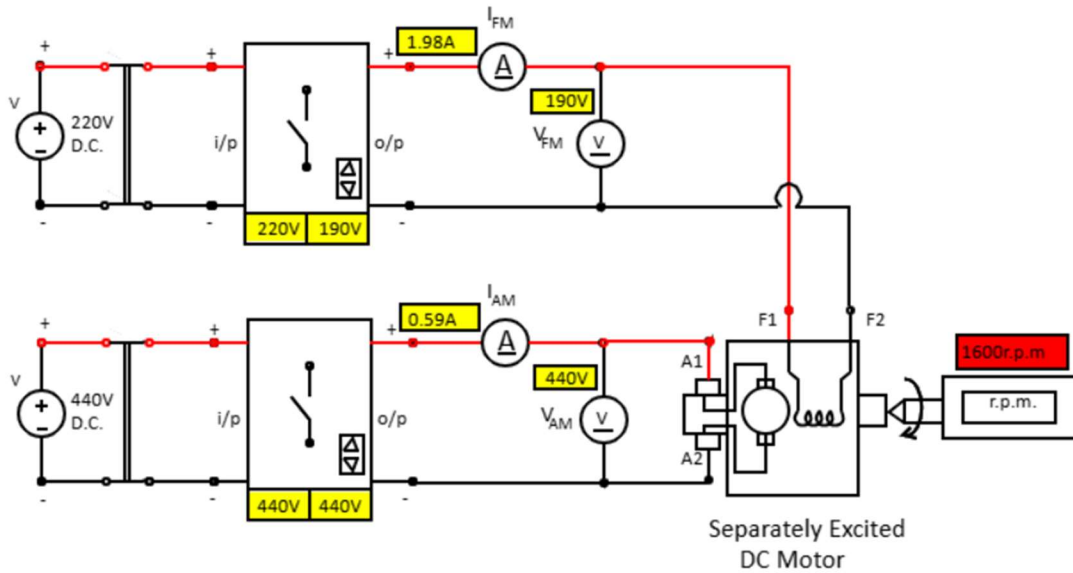


EXPERIMENT-2

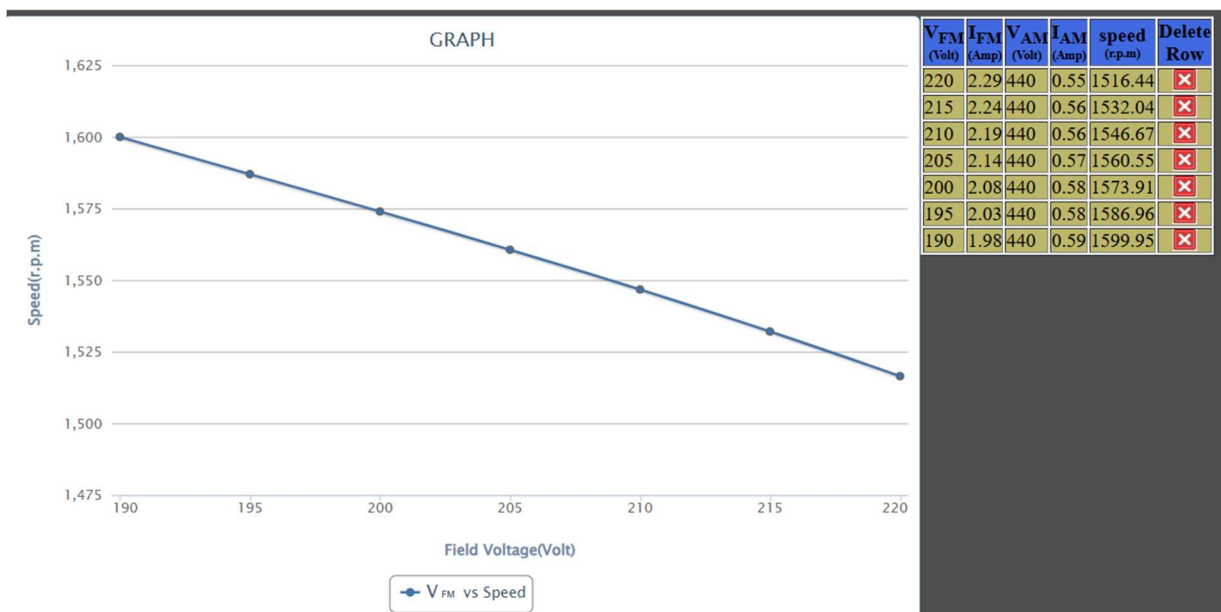
AIM: Speed Control of Separately excited DC motor

CIRCUIT:

Circuit Diagram: Speed Control of Separately Excited DC Motor



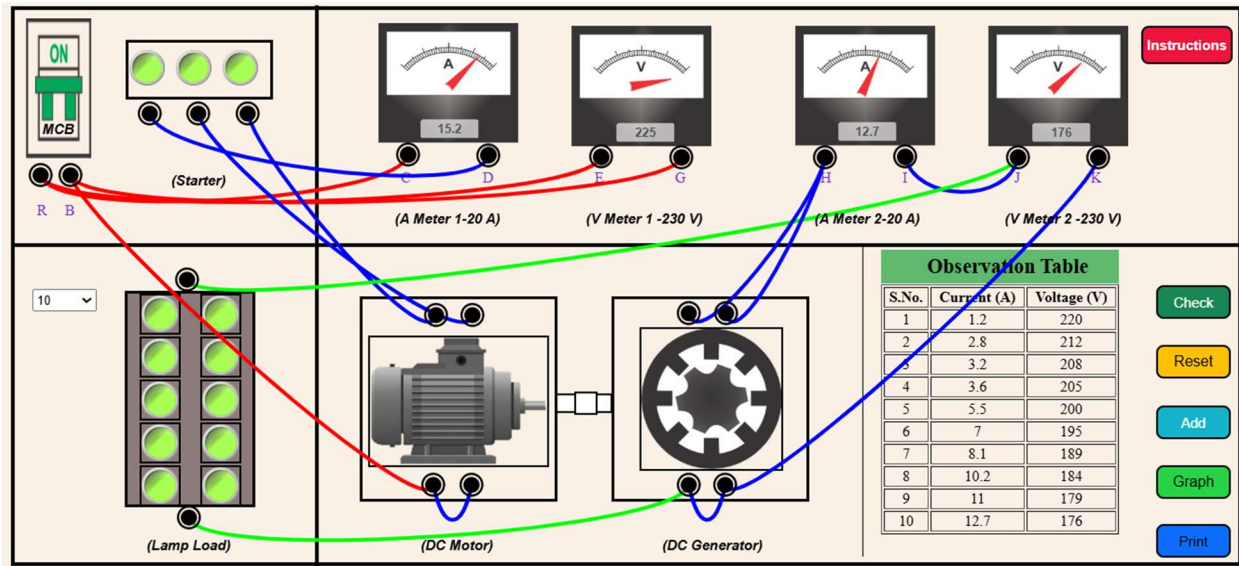
Output:



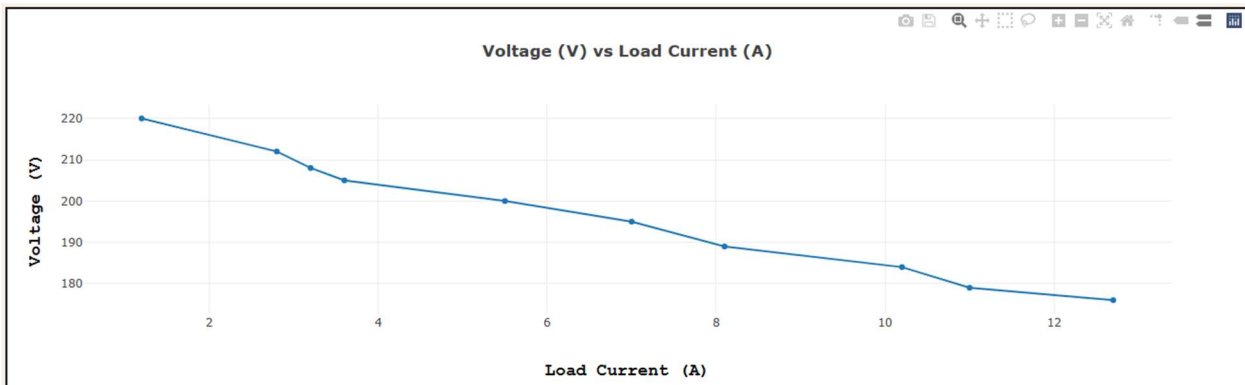
EXPERIMENT-3

AIM: To study the load Characteristics of DC shunt Generator.

CIRCUIT:



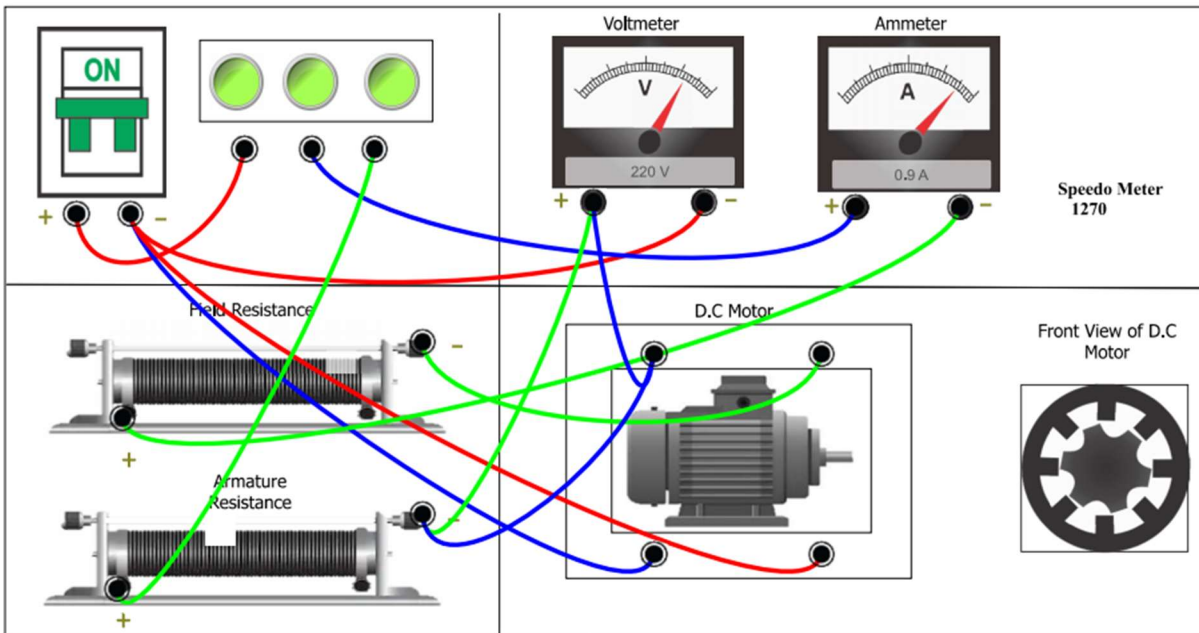
GRAPH:



EXPERIMENT-4

AIM: Speed control of DC motor by field resistance Control

APPARATUS:

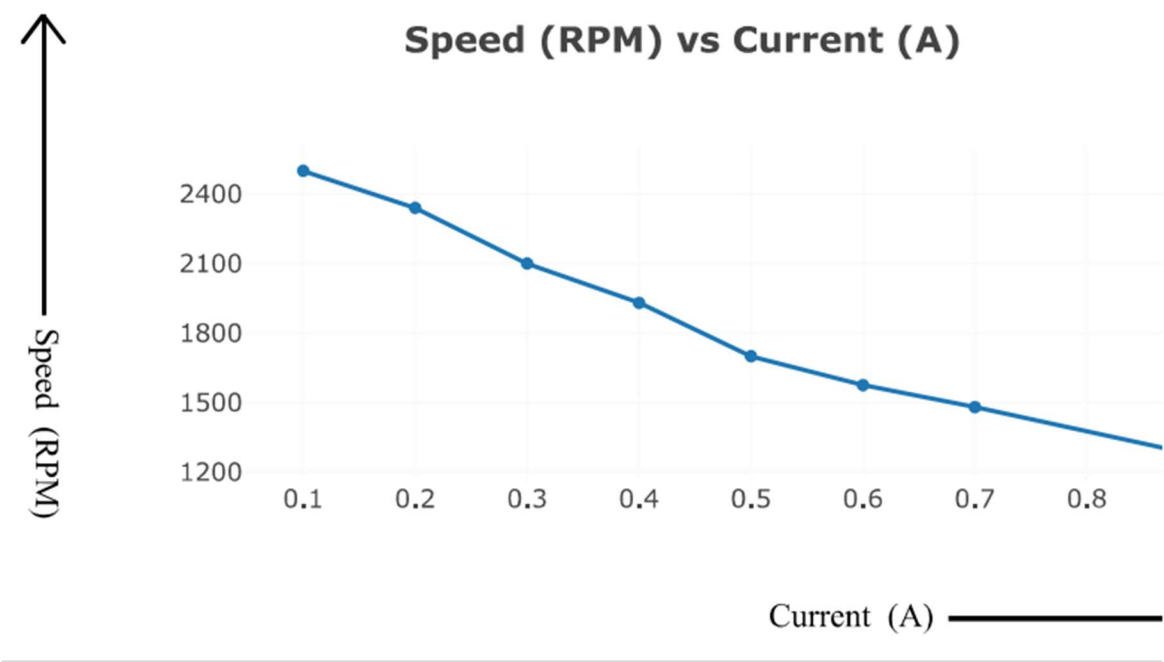


OBSERVATIONS:

OBSERVATION TABLE

S.No.	Current (A)	Speed (RPM)
1	0.1	2500
2	0.2	2340
3	0.3	2100
4	0.4	1930
5	0.5	1700
6	0.6	1575
7	0.7	1480
8	0.9	1270

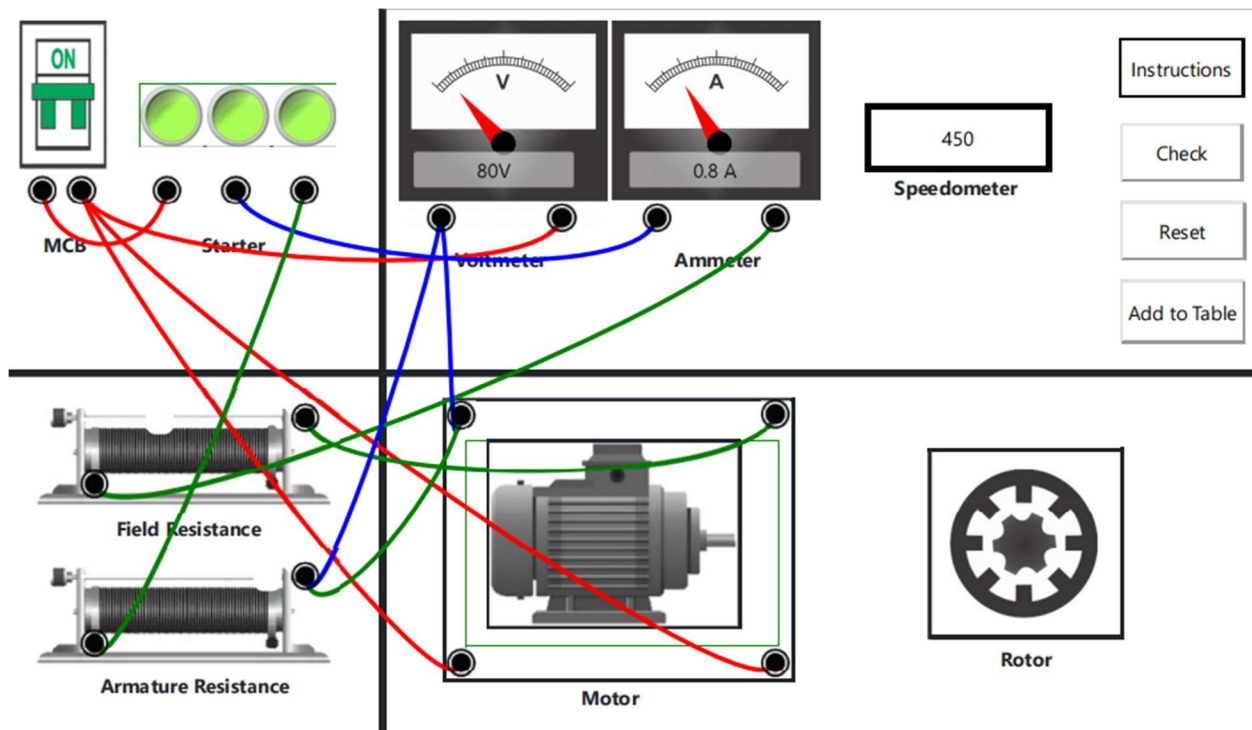
GRAPH:



EXPERIMENT-5

AIM: Speed control of DC motor by armature resistance control

CIRCUIT:

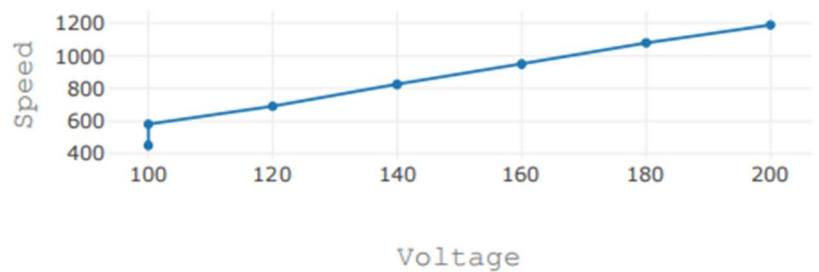


OBSERVATIONS:

OBSERVATION TABLE

S.No.	Voltage (V)	Speed (RPM)
1	200	1190
2	180	1080
3	160	950
4	140	825
5	120	690
6	100	580
7	100	450

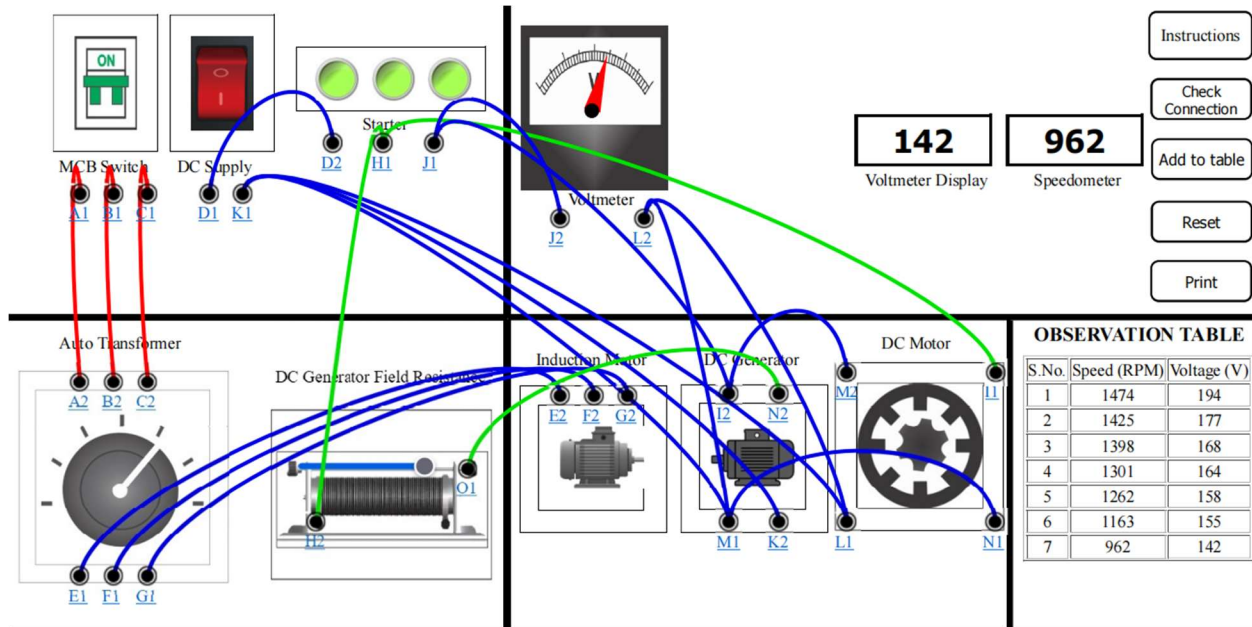
GRAPH:



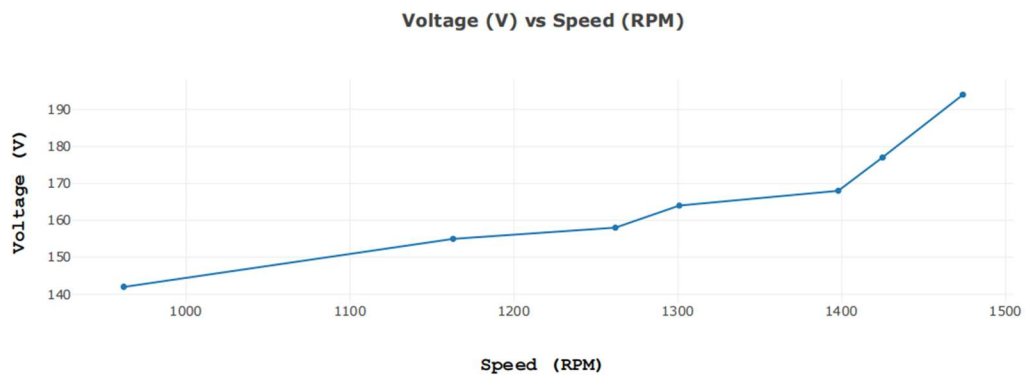
EXPERIMENT-6

AIM: To perform speed control of DC motor by using Ward-Leonard Method of speed control.

CIRCUIT:



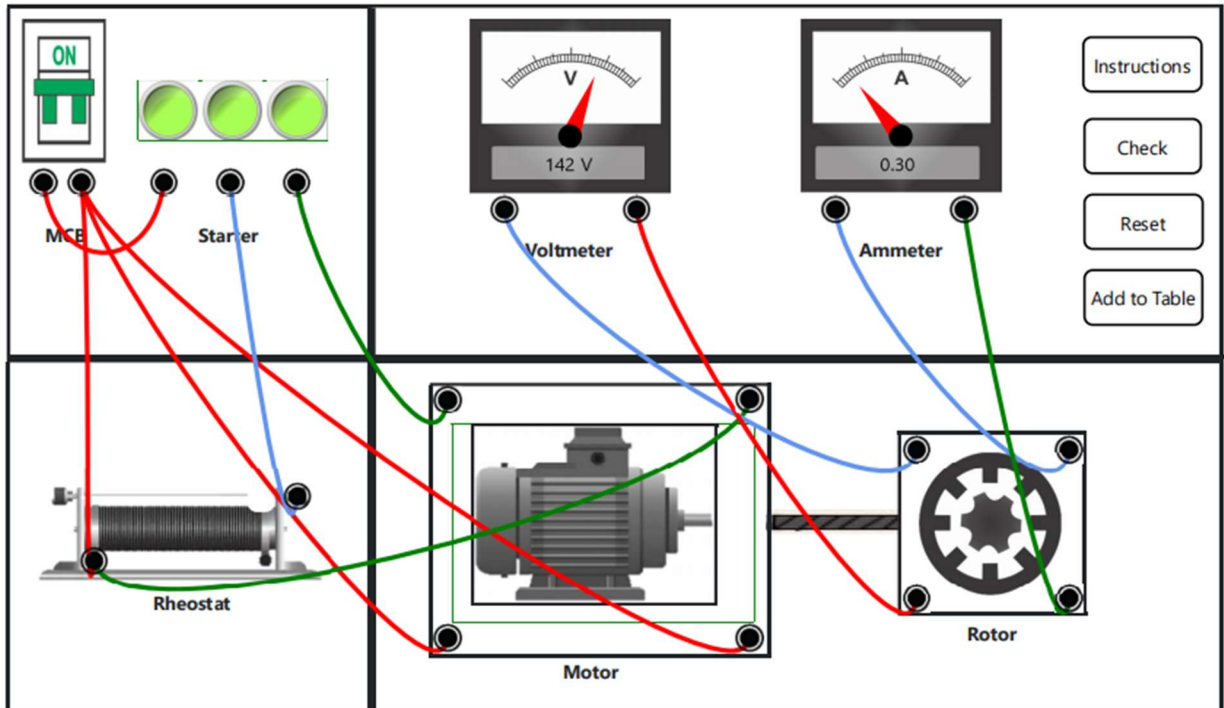
GRAPH:



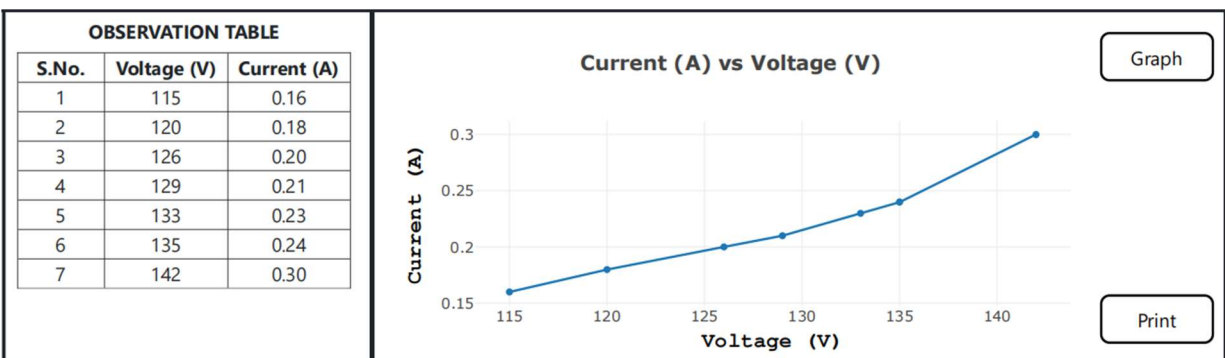
EXPERIMENT-7

AIM: Magnetisation characteristics of DC Shunt Generator

APPARATUS:



RESULTS:

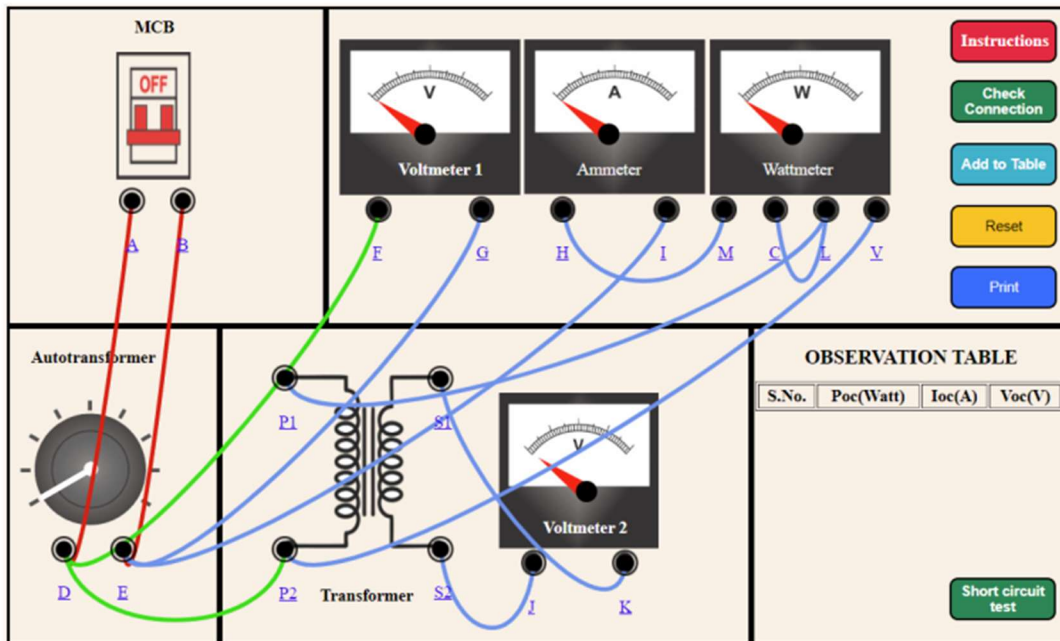


EXPERIMENT-8

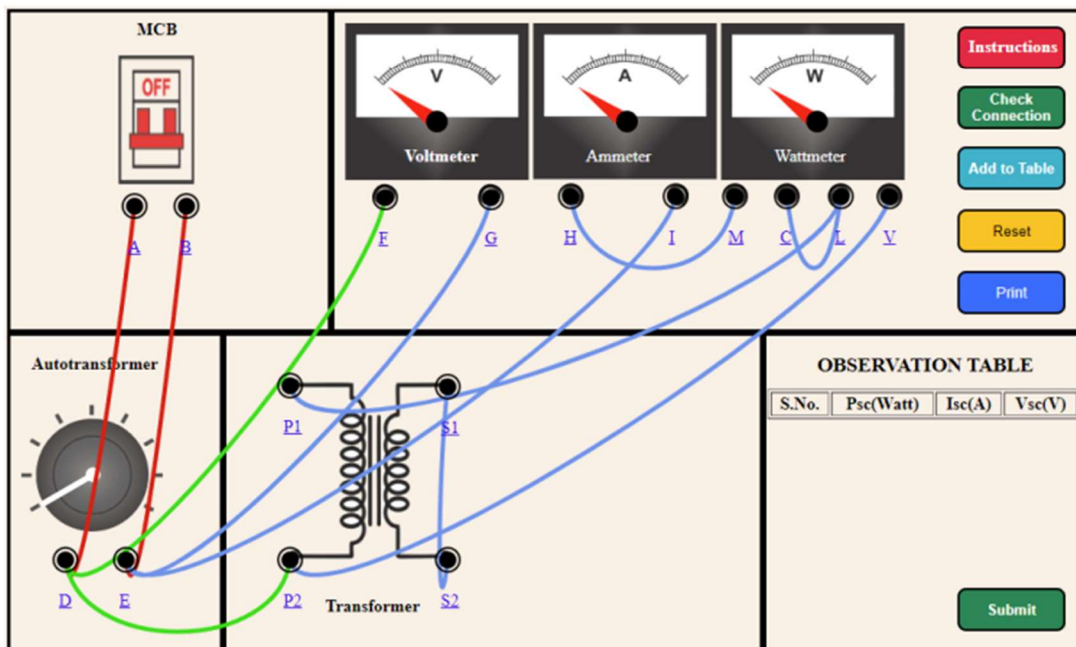
AIM: To determine the Transformer equivalent Circuit from Open Circuit and Short Circuit test.

CIRCUIT:

1. Open Circuit Test



2. Short Circuit Test



Equivalent Circuit diagram of transformer

