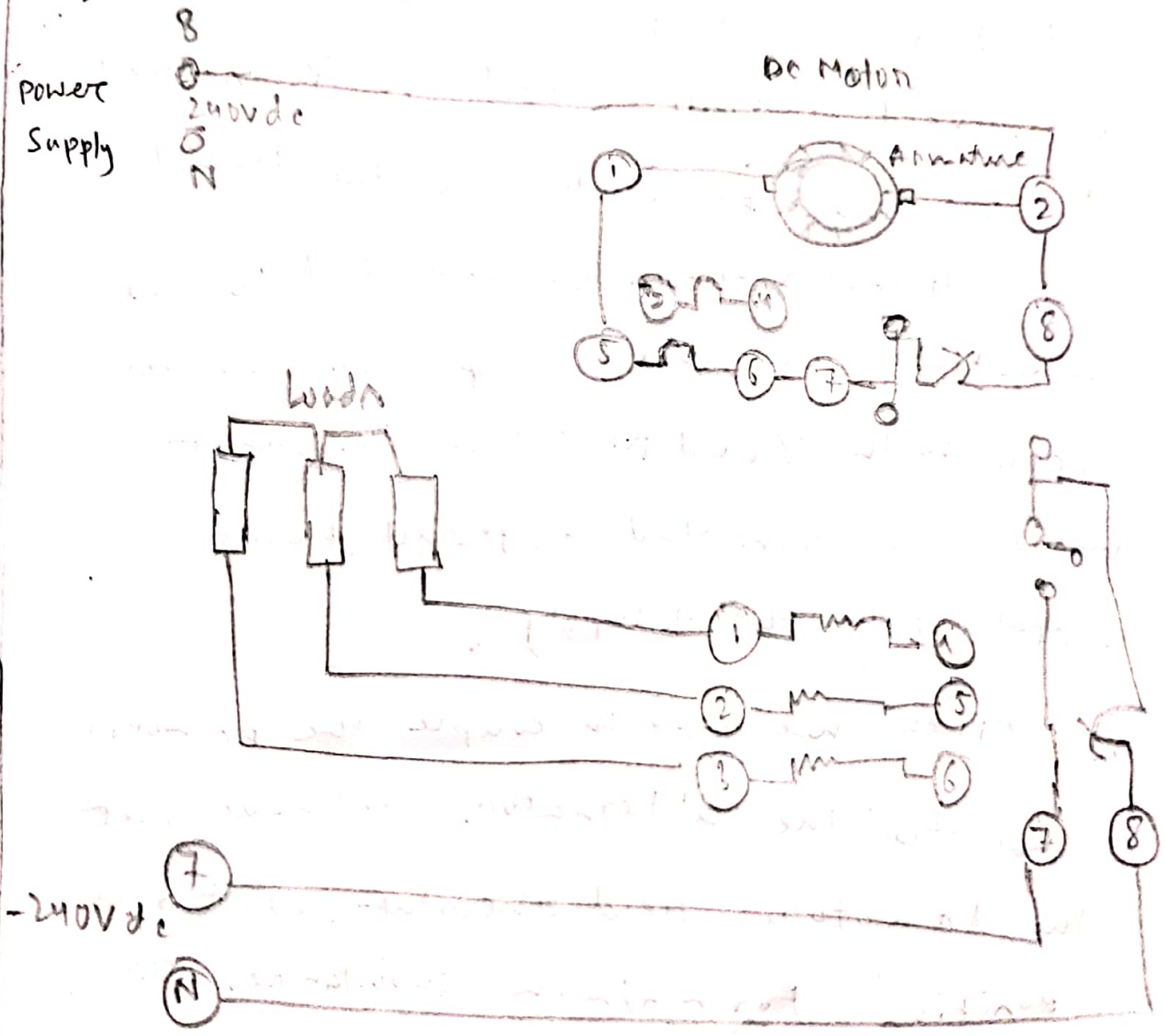
20/914007

Experiment 5

Diagram



Procedure

1. We are using power supply, DC motor, Resistive load, Synchronous generator, AC Ammeter. The balanced resistive load is Y-connected to the three phase output of the alternator. The alternator rotor is connected to the variable 0-220V dc output of the power supply with Z and N, the dc shunt motor is connected to fixed 220dc output of the power supply.

2. Then we have to couple the DC motor shaft to the alternator. We have to set the dc motor field rheostat arm's CW position for minimum resistance. Or we have to set alternator field rheostat in to its full CCW position for maximum resistance. We have to adjust resistance of 120Ω,

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3. Then we have to turn on power supply and have to adjust the rheostat for a rotor speed of 1500 rpm for the first time and then 1400 rpm for second time

$$\text{Regulation} = \frac{1200 - 415}{415} \times 100\%$$

$$= 189.15\%$$