

Ahsanullah University of Science And Technology

Department of EEE

2nd year 2nd Semester

Section - C

Name of the project: Tachometer

Members

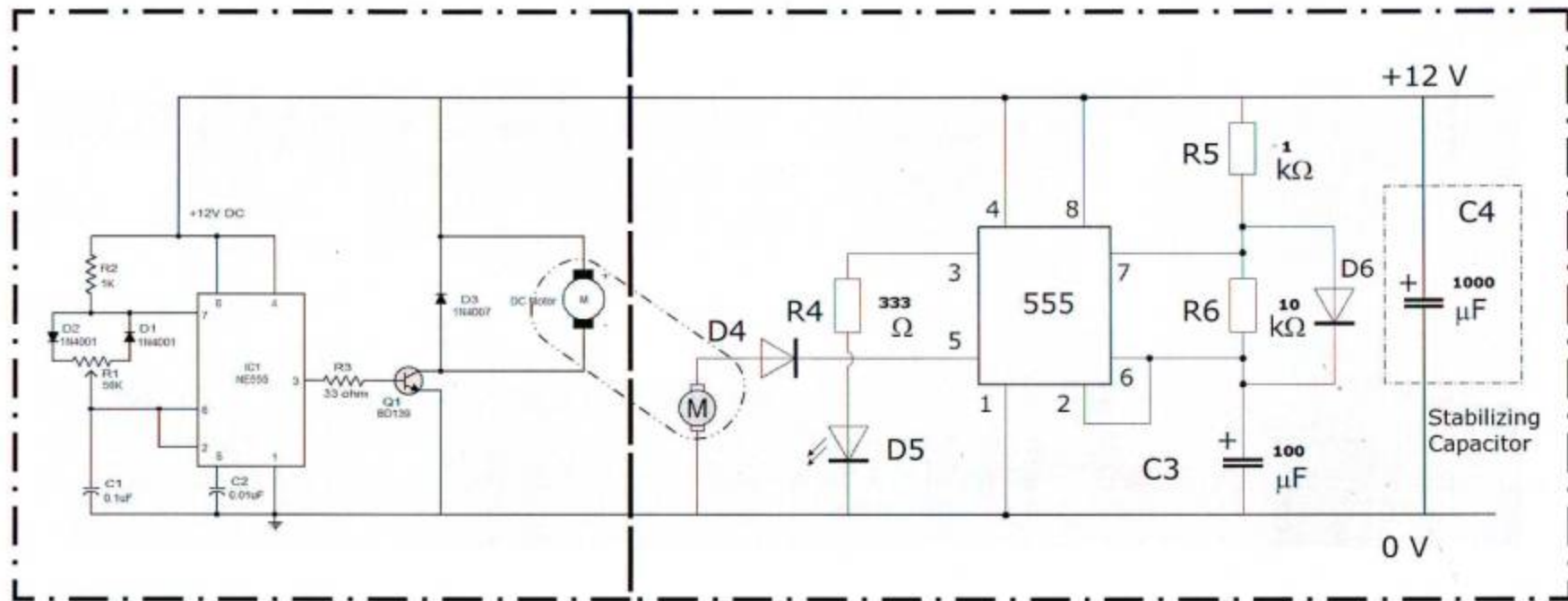
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Working Principle

Speed control: The Capacitor is charged and discharged through different paths (charges through D_2 and discharged through D_1) and different resistances as the value of R_1 varies. It creates pulses of different width (depended upon the positive position of R_1) at the output. The pulses are applied through Q_1 , which swatches the motor ON and OFF continuously. This causes the motor to run at different speeds.

The speed control circuit is only used to move the motor of the tachometer. It can be replaced by any rotating object for measuring its speed.

Tachometer: The tachometer circuit is a slow astable multivibrator made using a 555 timer. The output voltage of a DC motor (used as a DC generator) depends on its speed (RPM). The output voltage from the motor is applied to the control voltage pin (PIN5) of the timer. This changes the output frequency according to the speed of the motor. Hence the change of frequency can be seen by the blinking rate of the LED. If calibrated by using known RPM values. The output can be measured and scaled in RPM.



Speed Control for DC motor

Tachometer

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