



Veermata Jijabai Technological Institute

SOCIETY OF ROBOTICS & AUTOMATION

...BRINGING IDEAS TO LIFE

Power Supply and Regulation



External power supply

- Motors require 12 V to run efficiently.
- The available external sources of power are –



Lead Acid Battery
(rechargeable)



Variable power supply/AC adapter

- However, all digital ICs on the electronic board of the robot work at a voltage around 5V and may get damaged at higher voltages.
- To solve this discrepancy, a voltage regulator circuit is added on to the board.
- The voltage regulator takes an input of 12V and gives a 5V output and hence only one power supply is needed to power the entire robot.
- Voltage regulation can be achieved in many ways.

LM 7805

- LM 7805 is a fixed voltage regulator that takes an input of 12 V and gives a 5 V output.
- Addition of rectifying diodes and combination of capacitors ensures a stable regulated 5V supply.



Voltage regulator circuit

