**Project 4:- 5v dc using 7805 voltage regulator ic.**

# Components required:-

|  |  |  |
| --- | --- | --- |
| Serial no. | Component required | quantity |
| 1. | Ac source(220v,60Hz) | - |
| 2. | Transformer(12v) | 1 |
| 3. | Diode(1N4007) | 4 |
| 4. | Electrolytic Capacitor(1000MF,35v) | 1 |
| 5. | Electrolytic capacitor(10MF,35V) | 2 |
| 6. | Voltage regulator(7805) | 1 |
| 7. | Resistor(330ohm) | 1 |
| 8. | LED | 1 |

**DESCRIPTION:-**

AC voltage given to the transformer is converted into low value AC voltage but the frequency will not change.

Low voltage AC is passed through diode gets converted into pulsating dc.

This type of connection of diode is called BRIDGE connection.

Bridge connection is used for full wave rectification, this type of connection don’t need shunted transformer.

The maximum efficiency of a full wave rectifier is 81.2%.

Capacitor converts pulsating DC into DC but that also not pure DC.

Voltage regulator is used to make them pure. It has 3 pin first one is for input, second one is ground (common),third one is output.

Lastly led is connected with 330 ohm resistance to check 5 volt output.

