

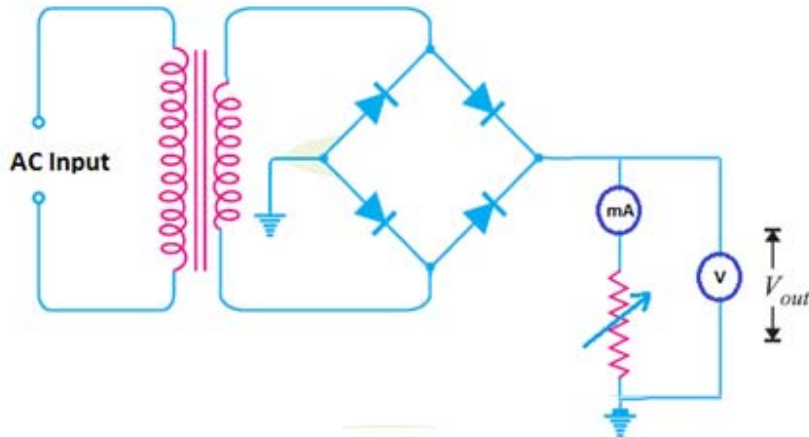
Experiment : Bridge Rectifier

Object : To Study the output of bridge rectifier using with and without filter circuit.

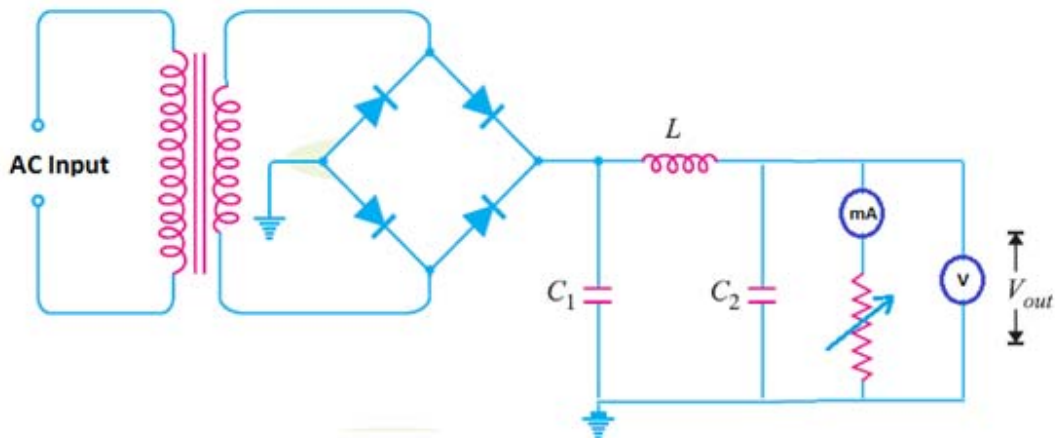
Apparatus used: AC source, Transformer, four diode, two capacitor, one inductor, dc voltmeter, ac voltmeter, mili-ammeter, variable resistor.

Circuit diagram:

1. Bridge rectifier circuit without filter circuit-



2. Bridge rectifier circuit with filter circuit-



Observation :

1. Variation output DC voltage (V_O) and ac voltage (V_{AC}) with load current (I_L) using no filter circuit.

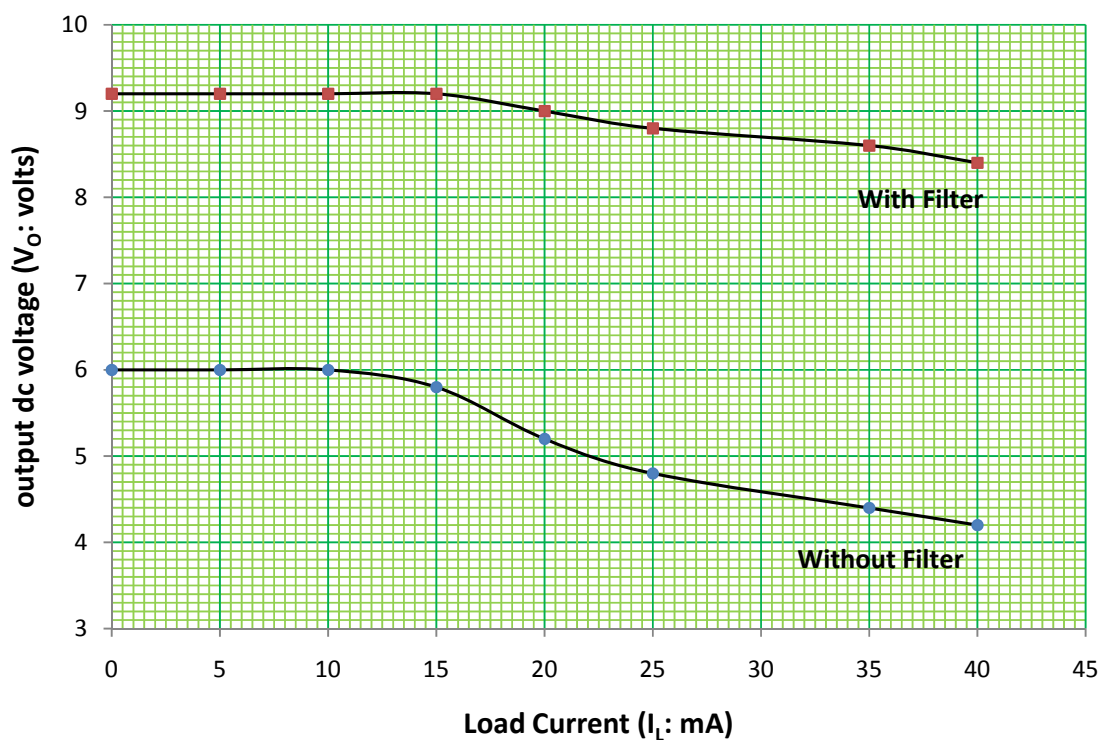
Sr.No.	I_L (mA)	V_O (volt)	V_{AC} (volt)
1	0	6.0	3.2
2	5	6.0	3.2
3	10	6.0	3.2
4	15	5.8	3.4
5	20	5.2	3.8
6	25	4.8	4.0
7	35	4.4	4.2
8	40	4.2	4.2

Note: Copy righted material. Do not publish elsewhere.

Experiment : Bridge Rectifier

2. Variation output DC voltage (V_O) and ac voltage (V_{AC}) with load current (I_L) using no filter circuit.

Sr.No.	I_L (mA)	V_O (volt)	V_{AC} (volt)
1	0	9.2	0
2	5	9.2	0
3	10	9.2	0
4	15	9.2	0
5	20	9.0	0
6	25	8.8	0
7	35	8.6	0
8	40	8.4	0



Graph: output DC voltage verses load current

RESULT:

1. Table-1 and Table-2 show that the DC component of voltage increases while ac component of voltage in output decreases using filter circuit. Thus, filter circuit reduces ripples.
2. The output dc voltage is constant in load current range 0-10mA for without filter circuit case while it is constant for load current range 0-15mA for with filter circuit case. Thus application of filter, slightly increase the voltage regulation.

Precaution:

1. Connections should be jointed correctly.
2. Connections must be tight.

Note: Copy righted material. Do not publish elsewhere.