



Full Wave Rectifier with & without filters

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ELECTRONIC COMPONENTS

- ACTIVE COMPONENTS
- PASSIVE COMPONENTS

ACTIVE COMPONENTS

- THE ELECTRONIC COMPONENTS WHICH ARE CAPABLE OF AMPLIFYING AND PROCESSING ON ELECTRICAL SIGNAL ARE CALLED ACTIVE COMPONENTS
- **EXAMPLES**
- TRANSISTORS
- LOGIC GATES

PASSIVE COMPONENT

- THE ELECTRONIC COMPONENTS WHICH ARE NOT CAPABLE OF AMPLIFYING OR PROCESSING AN ELECTRICAL SIGNAL ARE CALLED PASSIVE COMPONENTS.
- **EXAMPLES**
 - RESISTOR
 - CAPACITOR
 - INDUCTOR

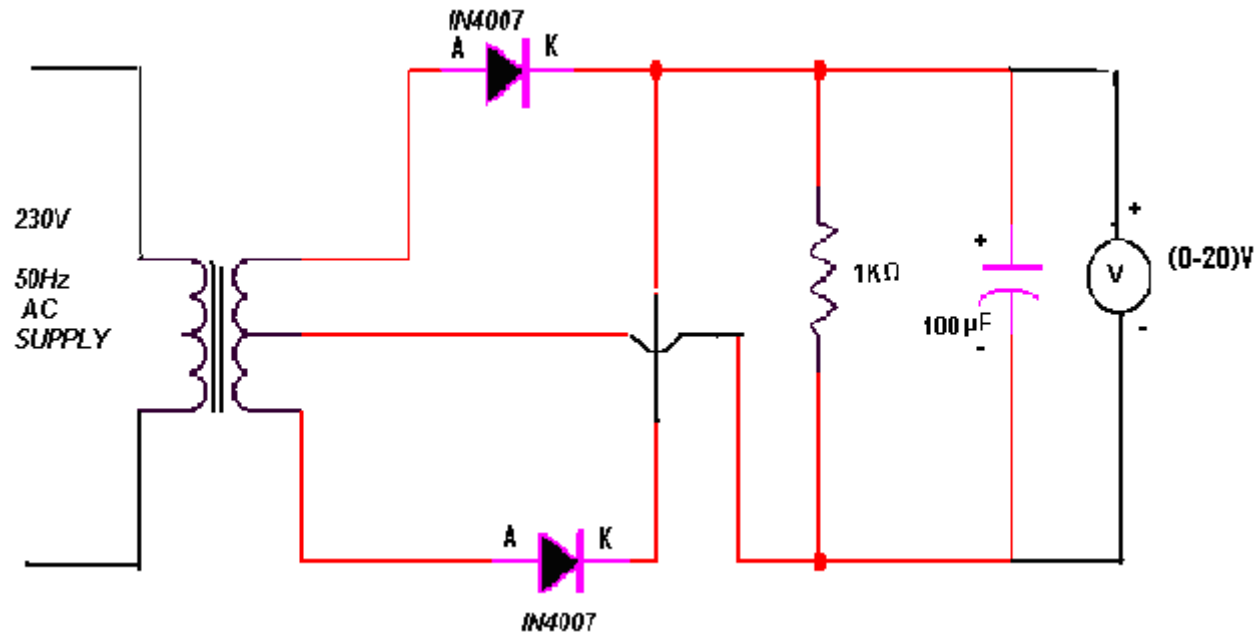
Full Wave Rectifier with & without filters

- **AIM:-**To find the Ripple factor and regulation of a Full-wave Rectifier with and without filter.

- **APPARATUS:-**

- Experimental Board
- Transformer (6-0-6v).
- P-n Diodes, (1N4007) ---2 No's
- Multimeters -2No's
- Filter Capacitor (100 μ F/25v) -
- Connecting Wires
- Load resistor, 1K Ω
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CIRCUIT DIAGRAM

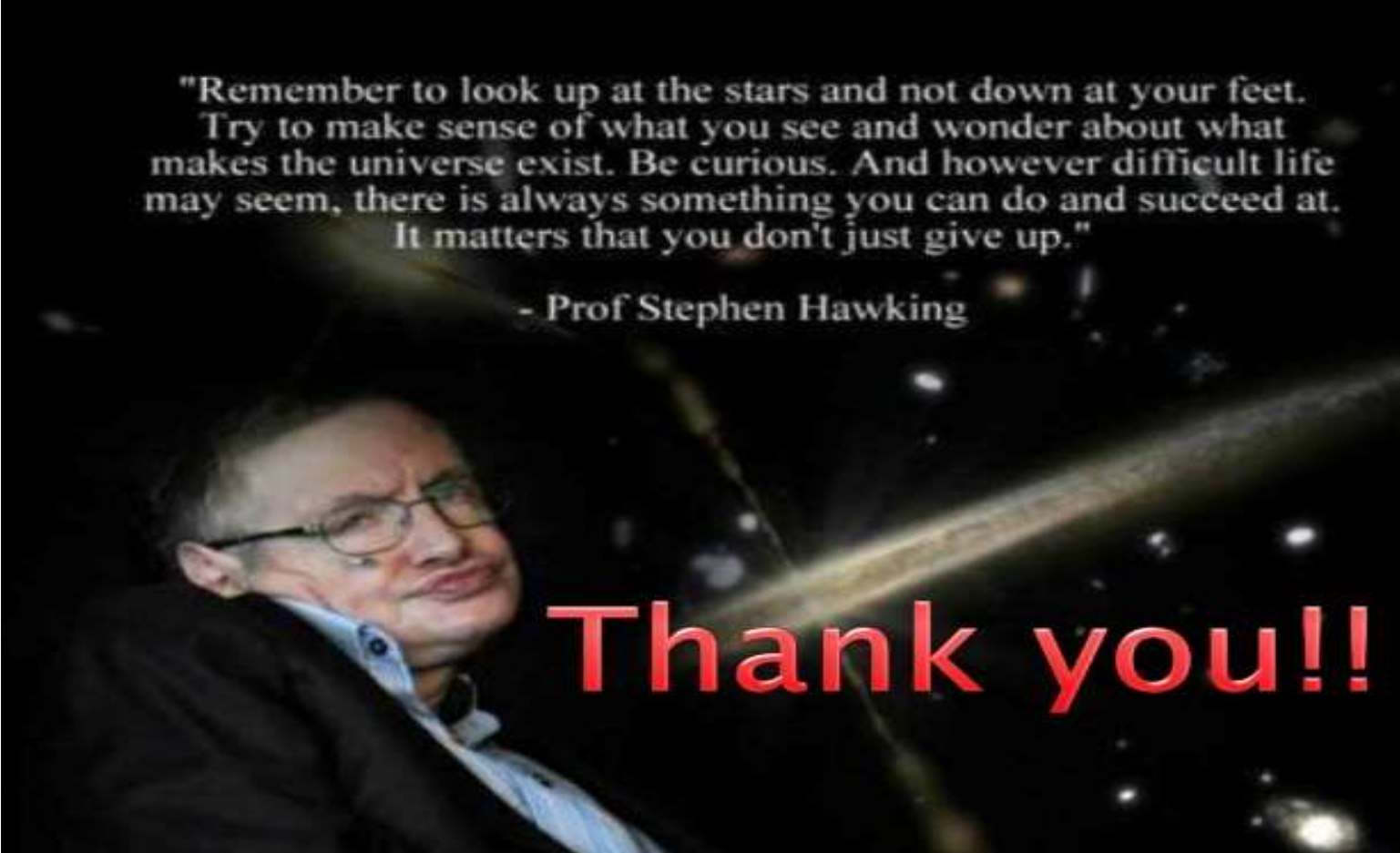


- **PROCEDURE:**

- Connections are made as per the circuit diagram.
- Connect the ac mains to the primary side of the transformer and the secondary side to the rectifier.
- Measure the ac voltage at the input side of the rectifier.
- Measure both ac and dc voltages at the output side the rectifier.
- Find the theoretical value of the dc voltage by using the formula $V_{dc}=2V_m/\pi$
- Connect the filter capacitor across the load resistor and measure the values of V_{ac} and V_{dc} at the output.
- The theoretical values of Ripple factors with and without capacitor are calculated.
- From the values of V_{ac} and V_{dc} practical values of Ripple factors are calculated. The practical values are compared with theoretical values.

- **PRECAUTIONS:**

- The primary and secondary side of the transformer should be carefully identified
- The polarities of all the diodes should be carefully identified.

A portrait of Stephen Hawking is positioned in the lower-left corner of the image. He is wearing his characteristic glasses and a dark jacket over a light-colored shirt. The background of the entire image is a deep space scene, featuring a bright, glowing spiral galaxy that stretches diagonally across the frame, along with numerous distant stars and smaller celestial bodies.

"Remember to look up at the stars and not down at your feet.
Try to make sense of what you see and wonder about what
makes the universe exist. Be curious. And however difficult life
may seem, there is always something you can do and succeed at.
It matters that you don't just give up."

- Prof Stephen Hawking

Thank you!!