

Experiment 3: Study and Observation of Full Wave Rectifier.

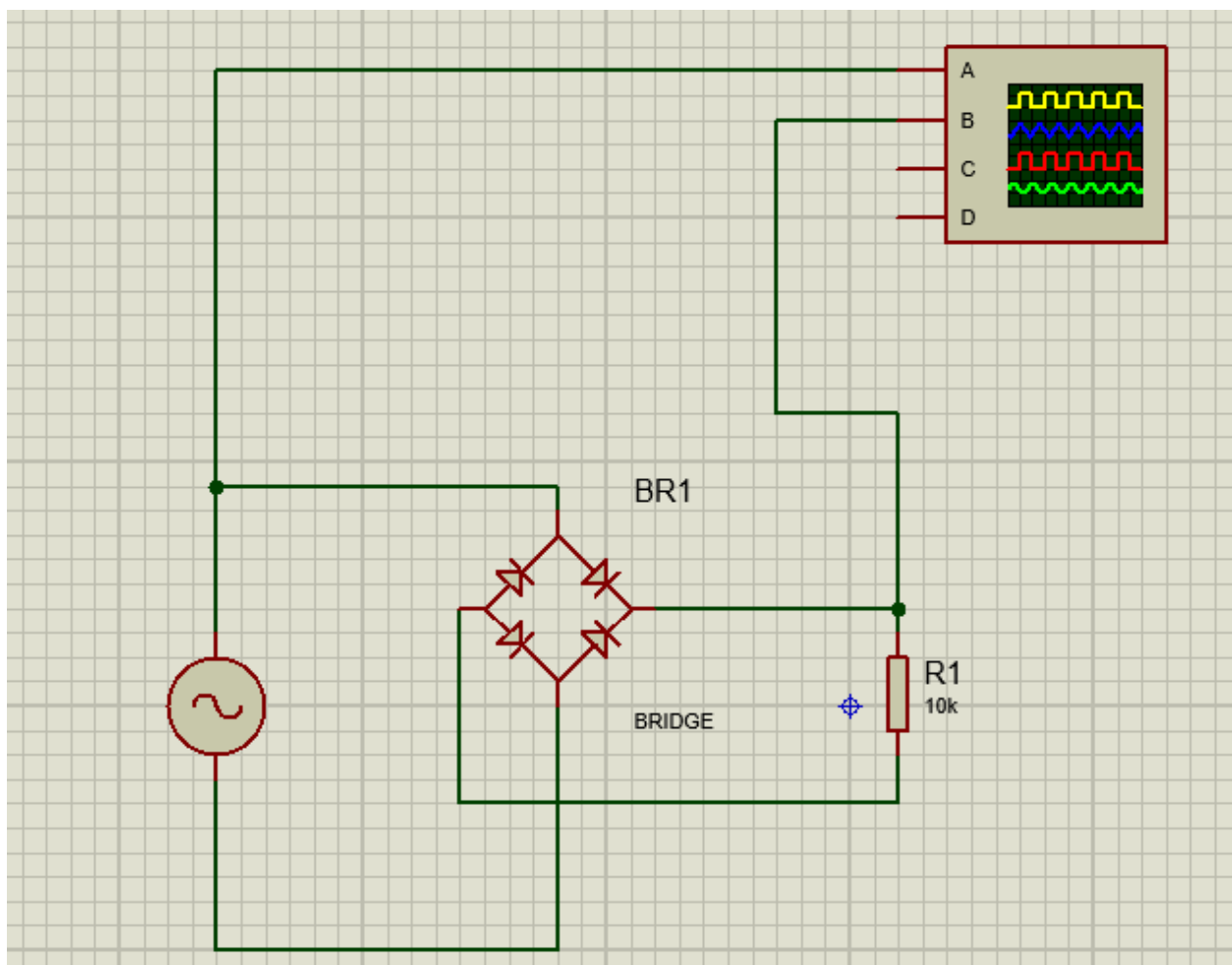
Full-Wave Rectifier:

A full-wave rectifier is a circuit that converts an AC input voltage into a pulsating DC output voltage by allowing full of the input waveform to pass through. It is commonly used in power supply circuits.

Equipment and Software Requirements:

- Proteus simulation software
- Computer with Proteus installed

Circuit Diagram:



Data Collection and Analysis:

- Capture the output waveform on the oscilloscope.
- Analyze the waveform to understand how the half-wave rectifier converts AC to DC.
- Measure and record the peak voltage (V_{peak}) of the rectified waveform.

Precautions:

- Ensure proper connections in the circuit.
- Avoid applying excessive voltage to the diode.
- Use appropriate units and scales for measurements.
- Be cautious when using simulation software to avoid incorrect configurations.

Lab Task:

Design the full wave rectifier with transformer.

Questions and Exercises:

- What is the purpose of a full-wave rectifier?
- Calculate the average output voltage of the full-wave rectifier and compare it to the peak input voltage.
- How can you improve the efficiency of a full-wave rectifier circuit?