

Experiments in Analog Electronics

1. Remembering:

- Recall the concept of internal resistance of a voltage source and its significance in circuit analysis.
- Recognize the methods for converting voltmeter to ammeter and vice versa in a circuit.
- Identify the functionality and importance of a Zener diode as a voltage regulator.

2. Understanding:

- Explain the operation and characteristics of a bipolar junction transistor in the common emitter configuration.
- Comprehend the working principle and design of a Wien bridge oscillator using an operational amplifier.
- Interpret the role and functioning of operational amplifiers in electronic circuits.

3. Applying:

- Demonstrate the calculation and measurement of internal resistance of a voltage source in a practical experiment.
- Implement the conversion of a voltmeter to an ammeter and vice versa in a circuit setup.
- Construct and analyze a voltage regulator circuit using a Zener diode.

4. Analyzing:

- Compare and contrast the advantages and limitations of a Zener diode as a voltage regulator in different electronic circuits.
- Evaluate the performance of a bipolar junction transistor in the common emitter configuration based on its characteristics.
- Analyze the stability and frequency output of a Wien bridge oscillator using an op-amp.

5. Evaluating:

- Assess the accuracy and reliability of the experimental results obtained for the internal resistance of a voltage source.
- Evaluate the effectiveness of converting a voltmeter to an ammeter and vice versa in different circuit scenarios.
- Judge the efficiency and performance of a voltage regulator circuit using a Zener diode in maintaining a stable output voltage.

6. Creating:

- Design innovative circuit configurations using operational amplifiers for various applications in analog electronics.
- Develop a comprehensive project incorporating the concepts and techniques learned in the course, such as designing a precision voltage regulator circuit.

Select Language ▼

Powered by  Google Translate

