

4 Lecture - PHY301

Important Subjective

What is an ideal voltage source?

Answer: An ideal voltage source is a theoretical concept in electrical engineering that provides a constant voltage output, regardless of the current flowing through it or any other external conditions.

What is the difference between an ideal voltage source and a real voltage source?

Answer: An ideal voltage source provides a constant voltage output, whereas a real voltage source may vary its output based on external conditions and has a non-zero internal resistance.

What is the internal resistance of an ideal voltage source?

Answer: An ideal voltage source has zero internal resistance.

What happens to the voltage output of an ideal voltage source when it is short-circuited?

Answer: The voltage output of an ideal voltage source remains constant even when it is short-circuited.

Can an ideal voltage source exist in reality?

Answer: No, an ideal voltage source is a theoretical concept and cannot exist in reality as it violates certain laws of physics.

What is the practical application of an ideal voltage source in electrical engineering?

Answer: The practical application of an ideal voltage source is to serve as a reference voltage for other circuits.

Can the voltage output of an ideal voltage source change with time?

Answer: No, the voltage output of an ideal voltage source is constant and does not change with time.

What happens to the current flowing through an ideal voltage source when it is short-circuited?

Answer: The current flowing through an ideal voltage source becomes infinite when it is short-circuited.

What is the significance of an ideal voltage source in circuit analysis?

Answer: An ideal voltage source simplifies the analysis of complex circuits as it provides a constant voltage output, making it easier to calculate circuit parameters such as voltage, current, and resistance.

What are the limitations of an ideal voltage source?

Answer: The limitations of an ideal voltage source are that it cannot exist in reality, and it cannot supply an infinite amount of current.