23 Lecture - PHY301

Important Mcqs

What is Thevenin's theorem?

a. A theorem that simplifies complex circuits to a single voltage source and series resistance.

b. A theorem that simplifies complex circuits to a single current source and parallel resistance.

c. A theorem that calculates the current flowing in a circuit.

Solution: a

Who developed Thevenin's theorem?

a. James Clerk Maxwell

b. Charles Wheatstone

c. Leon Charles Thevenin

Solution: c

What is the Thevenin resistance?

a. The equivalent resistance of a circuit when all voltage sources are turned off and all current sources are shorted.

b. The voltage between two points in a circuit when no current is flowing through the circuit.

c. The equivalent resistance of a circuit when all voltage sources are turned on and all current sources are open.

Solution: a

How can we determine the Thevenin voltage of a circuit?

a. By selecting two points in the circuit and assuming that all components to the right of these points are removed, leaving only the components to the left.

b. By selecting two points in the circuit and assuming that all components to the left of these points are removed, leaving only the components to the right.

c. By measuring the voltage at a single point in the circuit.

Solution: a

How can we determine the Thevenin resistance of a circuit?

a. By selecting two points in the circuit and assuming that all components to the right of these points are removed, leaving only the components to the left.

b. By selecting two points in the circuit and assuming that all components to the left of these points are removed, leaving only the components to the right.

c. By measuring the resistance of a single component in the circuit.

Solution: a

Can Thevenin's theorem be used for AC circuits?

a. Yes

b. No

Solution: a

Can Thevenin's theorem be used for DC circuits?

a. Yes

b. No

Solution: a

What is the equivalent resistance of a circuit with only resistors in series?

a. The sum of all the resistances.

b. The reciprocal of the sum of the reciprocals of all the resistances.

c. The difference between the highest and lowest resistance.

Solution: a

What is the equivalent resistance of a circuit with only resistors in parallel?

a. The sum of all the resistances.

b. The reciprocal of the sum of the reciprocals of all the resistances.

c. The difference between the highest and lowest resistance.

Solution: b

What is the advantage of using Thevenin's theorem?

a. It allows us to simplify complex circuits into simpler circuits, making it easier to analyze and understand them.

b. It allows us to increase the voltage in a circuit.

c. It allows us to decrease the resistance in a circuit.

Solution: a