Q1)what is ohms law?

Ohm’s law states that the voltage across a conductor is directly proportional to the current flowing through it, provided all physical conditions and temperature remain constant

Q2)kvl

algebraic sum of ALL the potential differences around the loop must be equal to zero as: ΣV = 0.

This idea by Kirchhoff is commonly known as the **Conservation of Energy**

**Q3)kcl**

the algebraic sum of ALL the currents entering and leaving a node must be equal to zero

Q4)norton theroem

Norton’s Theorem states that it is possible to simplify any linear circuit, no matter how complex, to an equivalent circuit with just a single current source and parallel resistance connected to a load

Q5) **Thevenin’s Theorem**

**Thevenin’s theorem states that it is possible to simplify any linear circuit, irrespective of how complex it is, to an equivalent circuit with a single voltage source and a series resistance.**

**Q6)diode**

**diode**, an [electrical](https://www.britannica.com/science/electricity) component that allows the flow of [current](https://www.britannica.com/science/electric-current) in only one direction

**Q7)biasing**

Biasing is the process of providing DC voltage which helps in the functioning of the circuit.

Q8)forward bias?

In a forward bias setup, the P-side of the diode is attached to the positive terminal and N-side is fixed to the negative side of the battery

9)reverse bias?

In reverse biased p-n junction diode, the positive terminal of the battery is connected to the [n-type semiconductor](https://www.physics-and-radio-electronics.com/electronic-devices-and-circuits/semiconductor/extrinsic-semiconductor/n-type-semiconductor.html) material and the negative terminal of the battery is connected to the [p-type semiconductor](https://www.physics-and-radio-electronics.com/electronic-devices-and-circuits/semiconductor/extrinsic-semiconductor/p-type-semiconductor.html) material.

Q10)pn juntion diode?

A p-n junction diode is two-terminal or two-electrode [semiconductor](https://www.physics-and-radio-electronics.com/electronic-devices-and-circuits/semiconductor.html)device, which allows the electric current in only one direction while blocks the electric current in opposite or reverse direction. If the diode is forward biased, it allows the electric current flow. On the other hand, if the diode is reverse biased, it blocks the electric current flow.What is

Q11)zener diode?

A zener diode is a special type of device designed to operate in the zener breakdown region. Zener diodes acts like normal p-n junction diodes under forward biased condition. When forward biased voltage is applied to the zener diode it allows  large amount of electric current and blocks only a small amount of electric current.

Zener diode is heavily doped than the normal p-n junction diode. Hence, it has very thin [depletion region](https://www.physics-and-radio-electronics.com/electronic-devices-and-circuits/semiconductor-diodes/depletion-region.html). Therefore, zener diodes allow more electric current than the normal p-n junction diodes.

Zener diode allows electric current in forward direction like a normal diode but also allows electric current in the reverse direction if the applied reverse voltage is greater than the zener voltage. Zener diode is always connected in reverse direction because it is specifically designed to work in reverse direction.

## Q12)What is Rectifier?

A rectifier is an electronic device that converts an alternating current into a direct current by using one or more P-N junction diodes.

## Q13) Different Types of Rectifier

Rectifiers are mainly classified into two types as:

1. Uncontrolled Rectifier
2. Controlled Rectifier

### **Uncontrolled Rectifiers**

The type of rectifier whose voltage cannot be controlled is known as an uncontrolled rectifier. Uncontrolled rectifiers are further divided as follows:

* Half Wave Rectifier
* Full Wave Rectifier

### Q14) **Controlled Rectifiers**

A type of rectifier whose voltage can be varied is known as the controlled rectifier.

Q15) full Wave Rectifier

A full wave rectifier is defined as a [type of rectifier](https://www.electrical4u.com/rectifier-type-instrument-construction-principle-of-operation/) that converts both halves of each cycle of an alternating wave (AC signal) into a pulsating DC signal. Full-wave rectifiers are used to convert AC voltage to DC voltage, requiring multiple diodes to construct. Full wave rectification is the process of converting an AC signal to a DC signal.

Q16)half wave rectifier?

A **half wave rectifier** is defined as a [type of rectifier](https://www.electrical4u.com/rectifier-type-instrument-construction-principle-of-operation/) that only allows one half-cycle of an AC [voltage](https://www.electrical4u.com/voltage-or-electric-potential-difference/) waveform to pass, blocking the other half-cycle. Half-wave rectifiers are used to convert AC voltage to DC voltage, and only require a single [diode](https://www.electrical4u.com/diode-working-principle-and-types-of-diode/) to construct.