# 37 Lecture - PHY301

## **Important Subjective**

#### What is a full wave bridge rectifier?

**Answer:** A full wave bridge rectifier is a circuit that converts AC voltage into DC voltage. It is a type of rectifier that uses four diodes in a bridge configuration to rectify the AC voltage.

### How does a full wave bridge rectifier differ from a full wave rectifier?

**Answer:** A full wave bridge rectifier uses four diodes in a bridge configuration, while a full wave rectifier uses two diodes in a center-tap configuration. The bridge rectifier is more efficient as it uses all four diodes to rectify the AC voltage.

#### What is the advantage of using a full wave bridge rectifier?

**Answer:** The advantage of using a full wave bridge rectifier is that it provides a higher DC output voltage and is more efficient compared to a half-wave rectifier or a full-wave rectifier.

#### What is the function of the transformer in a full wave bridge rectifier?

**Answer:** The transformer in a full wave bridge rectifier steps down the high voltage AC input to a lower voltage AC output, which is then rectified by the bridge rectifier to produce DC voltage.

## What is the RMS voltage of the AC input in a full wave bridge rectifier?

**Answer:** The RMS voltage of the AC input in a full wave bridge rectifier is equal to the peak voltage divided by the square root of 2.

#### How is the output voltage of a full wave bridge rectifier calculated?

**Answer:** The output voltage of a full wave bridge rectifier is calculated as the RMS value of the input voltage multiplied by the rectification factor, which is equal to 0.812.

#### What is the purpose of the smoothing capacitor in a full wave bridge rectifier?

**Answer:** The purpose of the smoothing capacitor in a full wave bridge rectifier is to filter out the AC component from the rectified voltage, resulting in a smoother DC output.

## What is the efficiency of a full wave bridge rectifier?

**Answer:** The efficiency of a full wave bridge rectifier is approximately 81.2%, which is higher than that of a half-wave rectifier or a full-wave rectifier.

## What is the disadvantage of a full wave bridge rectifier?

**Answer:** The disadvantage of a full wave bridge rectifier is that it requires four diodes, which increases the cost and complexity of the circuit.

## What are the applications of a full wave bridge rectifier?

**Answer:** The applications of a full wave bridge rectifier include power supplies for electronic devices, battery charging circuits, and motor control circuits.