

45 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.