

# 30 Lecture - PHY301

## Important Mcqs

**What is the purpose of a diode in a circuit?**

- A. To increase voltage
- B. To decrease voltage
- C. To regulate current
- D. To increase resistance

**Answer: C. To regulate current**

**Which direction does current flow in a forward-biased diode?**

- A. From cathode to anode
- B. From anode to cathode
- C. In both directions
- D. None of the above

**Answer: A. From cathode to anode**

**Which of the following is the equation for the current-voltage relationship in a diode?**

- A.  $V = IR$
- B.  $I = V/R$
- C.  $I = I_s(e^{V/V_T} - 1)$
- D.  $V = I \cdot R$

**Answer: C.  $I = I_s(e^{V/V_T} - 1)$**

**What is the voltage drop across a silicon diode when it is forward-biased?**

- A. 0.3V
- B. 0.6V

C. 1.2V

D. 2.4V

**Answer: B. 0.6V**

**What is the purpose of a load resistor in a diode circuit?**

A. To limit the current

B. To increase the voltage

C. To decrease the voltage

D. To increase the resistance

**Answer: A. To limit the current**

**In a half-wave rectifier circuit, what is the output waveform?**

A. Sine wave

B. Square wave

C. Triangle wave

D. Half sine wave

**Answer: D. Half sine wave**

**What is the purpose of a smoothing capacitor in a rectifier circuit?**

A. To increase voltage

B. To decrease voltage

C. To regulate current

D. To smooth out the ripple

**Answer: D. To smooth out the ripple**

**In a full-wave rectifier circuit, what is the output waveform?**

A. Sine wave

B. Square wave

C. Triangle wave

D. Full sine wave

**Answer: D. Full sine wave**

**What is the purpose of a zener diode in a circuit?**

A. To regulate current

B. To protect against voltage spikes

C. To increase voltage

D. To decrease voltage

**Answer: B. To protect against voltage spikes**

**What is the voltage across a zener diode when it is in breakdown?**

A. 0V

B. 1V

C. 5V

D. Variable depending on the diode

**Answer: D. Variable depending on the diode.**