

PHY301- CIRCUIT THEORY

Quiz#2 Solved with references

By Masoom fairy

Question # 1 of 10 (Start time: 12:12:50 PM) Total Marks: 1

A transformer may consists of

Select correct option:

one winding

two windings LECTURE 35

two or more than two windings

no winding

Question # 2 of 10 (Start time: 12:14:04 PM) Total Marks: 1

In a P- type semiconductor material, the majority carriers are

Select correct option:

Holes Lecture 29

Electrons

Ions

Protons

Question # 3 of 10 (Start time: 12:15:16 PM) Total Marks: 1

The primary and secondary winding of transformer are

Select correct option:

physically touched

physically isolated Lecture 35

touched with conductor

largely separated

Question # 4 of 10 (Start time: 12:16:12 PM) Total Marks: 1

Analysing the farward biase region of junction diode , the value of constant voltage, V_T is

Select correct option:

25.02V

10mV

25.02mV Lecture 31

5Mv

Question # 5 of 10 (Start time: 12:17:01 PM) Total Marks: 1

True or false, hole current is opposite of electron current

Select correct option:

true Lecture 29

false

Question # 6 of 10 (Start time: 12:18:10 PM) Total Marks: 1

Secondary voltage is greater in magnitude as compared to primary voltage in a

Select correct option:

step down transformer

step up transformer Lecture 35

isolated transformer

simple transformer

Question # 7 of 10 (Start time: 12:19:08 PM) Total Marks: 1

Which transformer gives less voltage at secondary as compared to primary

Select correct option:

isolated transformer

step up transformer

step down transformer Lecture 35

all transformer

Question # 8 of 10 (Start time: 12:19:46 PM) Total Marks: 1

A transformer will be out of phase when

Select correct option:

output voltage is 0 degree out of phase with input voltage

output voltage is 180 degree out of phase with input voltage Lecture 35

output voltage is 360 degree out of phase with input voltage

output voltage is same as input voltage

Question # 9 of 10 (Start time: 12:20:43 PM) Total Marks: 1

For a P-N junction under forward bias

Select correct option:

more forward current flows Not conform

no forward current flows
more reverse current flows
infinite reverse current flows

Question # 10 of 10 (Start time: 12:21:59 PM) Total Marks: 1

When the turn ratio of a transformer is 10 and primary ac voltage is 6v, the secondary voltage is

Select correct option:

36v

6v

60v

0.6v

$$N_2/N_1 = 10$$

$$V_1 = 6v$$

$$V_2 = ?$$

$$N_2/N_1 = V_2/V_1$$

$$N_2/N_1 * V_1 = V_2$$

$$10 * 6 = V_2$$

$$V_2 = 60v$$

CONTINUED:

Quiz - Mozilla Firefox

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BC110200184 : Faizan UI Hassan Syed

Time Left 81 sec(s)

Quiz Start Time: 11:20 AM

Question # 1 of 10 (Start time: 11:20:26 AM) Total Marks: 1

If turn ratio of a transformer is 5 and secondary current is 2A, the primary current is

Select correct option:

☐ 2.5A

☐ 10A

☐ 0.4A

☐ 7A

Click here to Save Answer & Move to Next Question

$$N_2/N_1 = 5$$

$$I_2 = 2A$$

$$I_1 = N_2/N_1 * I_2$$

$$= 5 * 2 = 10A = \text{Answer}$$

Lecture 35

Quiz - Mozilla Firefox

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BC110200184 : Faizan Ul Hassan Syed

Time Left 85 sec(s)

Quiz Start Time: 11:20 AM

Question # 2 of 10 (Start time: 11:21:08 AM) Total Marks: 1

Addition of impurities in semiconductor material to produce more current is called

Select correct option:

☐ intrinsic

☐ dopping

☐ bonding

☐ excitation

Click here to Save Answer & Move to Next Question

Dopping

Lecture 29

Quiz - Mozilla Firefox

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Time Left 86 sec(s)

Quiz Start Time: 11:20 AM

Question # 3 of 10 (Start time: 11:22:11 AM) Total Mark

There is a energy gap between valence and conduction band

Select correct option:

☐ forbidden

☐ permitted

Forbidden. Correct.

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BC110200184 : Faizan UI Hassan Syed

Time Left 85 sec(s)

Quiz Start Time: 11:20 AM

Question # 4 of 10 (Start time: 11:22:45 AM) Total Marks: 1

Diode small signal resistance r_d at bias current of 5mA for $n=1$, will be

Select correct option:

☐ 10 ohms

☐ 8 ohms

☐ 5 ohms

☐ 2.5 ohms

Click here to Save Answer & Move to Next Question

$$R_d = nV_t/I_d$$

$$= 1 \cdot 25/5 = 5 \text{ ohms}$$

LECTURE 34

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Time Left 88 sec(s)

Quiz Start Time: 11:20 AM

Question # 5 of 10 (Start time: 11:23:10 AM) Total Marks: 1

There is no voltage drop across diode when forward biased, in case of

Select correct option:

☐ ideal diode model

☐ practical diode model

Click here to Save Answer & Move to Next Question

Ideal Diode model

LECTURE 33

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Time Left 85 sec(s)

Quiz Start Time: 11:20 AM

Question # 6 of 10 (Start time: 11:23:26 AM) Total Marks: 1

If 10w of power is applied to primary of an ideal transformer with a turn ratio of 5, the power delivered to the secondary load is

Select correct option:

☐ 25w

☐ 50w

☐ 0.5w

☐ 10w

Click here to Save Answer & Move to Next Question

50W I think.

According to formula:

$$P = V \cdot I$$

$$P_1 = V_1 \cdot I_1, P_2 = V_2 \cdot I_2$$

$$N_2/N_1 = V_2/V_1 = I_1/I_2$$

$$P_2 = N_2/N_1 \cdot P_1$$

Quiz - Mozilla Firefox

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Time Left 86 sec(s)

Quiz Start Time: 11:20 AM

Question # 7 of 10 (Start time: 11:24:05 AM) Total Marks: 1

The width of the depletion layer of a junction

Select correct option:

- ☐ decreases with light doping
- ☐ increases with heavy doping
- ☐ under reverse bias
- ☐ is increased under reverse bias

Click here to Save Answer & Move to Next Question

Is increased under reverse bias.

LECTURE 43 (out of 29 to 36)

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Time Left 86 sec(s)

Quiz Start Time: 11:20 AM

Question # 8 of 10 (Start time: 11:24:24 AM) Total Marks: 1

Using exponential model,for a diode that conducts at 1mA with $n=2$, the change in current due to change of voltage by 5mv will be

Select correct option:

☐ 0.4mA

☐ 0.8mA

☐ 3mA

☐ 0.11mA

Click here to Save Answer & Move to Next Question

0.11mA (not conform).

Quiz - Mozilla Firefox

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Time Left 85 sec(s)

Quiz Start Time: 11:20 AM

Question # 9 of 10 (Start time: 11:25:03 AM) Total Marks: 1

In an N- type semiconductor material , the majority carrier are

Select correct option:

☐ holes

☐ electrons

☐ ions

☐ protons

Click here to Save Answer & Move to Next Question

Electrons.

LECTURE 29

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Time Left 86 sec(s)

Quiz Start Time: 11:20 AM

Question # 10 of 10 (Start time: 11:25:19 AM) Total Marks: 1

If a silicon diode conducts at 2mA and whose $n=1$, the slope of diode will be at

Select correct option:

☐ 1/25 ohms

☐ 1/2 ohms

☐ 2/25 ohms

☐ 2 ohms

Click here to Save Answer & Move to Next Question

2/25 ohms. CORRECT

$$\text{Slop} = 1/R_d$$

$$R_d = I / nV_t$$

$$= 2/1 * 25 = 2/25 \text{ ohms.}$$