| | |
|---|---|
| **Started on** | Saturday, 30 July 2022, 12:23 AM |
| **State** | Finished |
| **Completed on** | Saturday, 30 July 2022, 12:33 AM |
| **Time taken** | 10 mins 4 secs |
| **Grade** | **6.0** out of 10.0 (**60**%) |

Question **1**

Incorrect

Mark 0.0 out of 2.0

Which of the following is true for a semiconductor doped with Boron at 300°K ?

Select one:

- a. Both the number of holes and the number of free electrons are equal to zero
- b. The number of holes is equal to the number of free electrons
- c. The number of holes is greater than the number of free electrons
- d. The number of holes is less than the number of free electrons ✖
- e. None of these

The correct answer is: The number of holes is greater than the number of free electrons

Incorrect

Marks for this submission: 0.0/2.0.

Question **2**

Correct

Mark 2.0 out of 2.0

Intrinsic semiconductors are pure, without any impurity atoms added.

Select one:

- True ✔
- False

The correct answer is 'True'.

Correct

Marks for this submission: 2.0/2.0.

Question **3**

Correct

Mark 2.0 out of 2.0

If a silicon diffusion is doped with phosphorus at a concentration of 4.6 x 10^17/cm^3, what is the concentration of holes in this piece of silicon per cm^3? Assume ni = 1.5 x 10^10/cm^3 at 300°K

Answer: 489.13 ✔

The correct answer is: 489

**Correct**

Marks for this submission: 2.0/2.0.

Question **4**

Correct

Mark 2.0 out of 2.0

Which of the following is true for the diffusion capacitance of a PN junction?

Select one:

- a. The capacitance decreases as the mean transit time increases
- b. The capacitance decreases as temperature increases ✔
- c. None of these
- d. The amount of charge stored decreases as the forward bias increases
- e. The capacitance decreases as the forward bias increases

The correct answer is: The capacitance decreases as temperature increases

**Correct**

Marks for this submission: 2.0/2.0.

Question **5**

Correct

Mark 0.0 out of 2.0

The maximum value for the depletion region capacitance of a reverse biased PN junction occurs when the reverse bias is equal to zero volts.

Select one:

- True ✔
- False

The correct answer is 'True'.

**Correct**

Marks for this submission: 2.0/2.0. Accounting for previous tries, this gives **0.0/2.0**.

◄ Practice Quiz 2 - Opamps

Jump to...

Practice Quiz 4 - Diodes ►