

Course No: SWEN 2301
Course Title: Electronics Principles
Date: 22/10/2017
No. of Questions: (3)
Time: 1hours
Using Calculator (No)

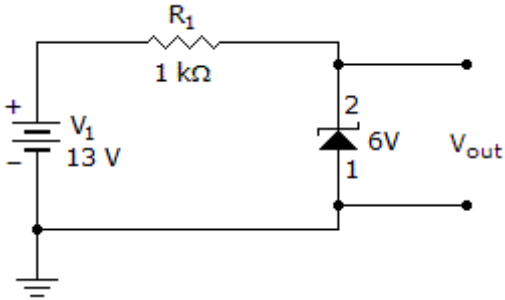
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First MidtermExam
1st. 2018-2017
Total Grade:15

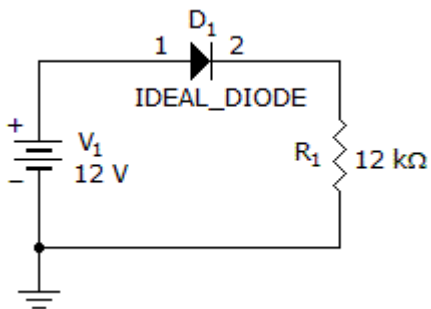
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College Name: _____
Dep. / Specialist: _____
Using Dictionary (No)

Question One: **(05/15)**

1) What is the current through the zener diode? (2.5/05)



2) What is the current through the diode? (2.5/05)



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Question Two:

(05/15)

Chose the correct answer then put it in the following table below.

1) When matching polarity connections have been made and the potential difference (PD) is above 0.7 V, the diode is considered to be:

- A. not working
- B. forward biased
- C. reverse biased
- D. an open switch

2) The characteristic curve for the complex model of a silicon diode shows that

- A. the barrier potential is 0 V
- B. the barrier potential stays fixed at 0.7 V
- C. the barrier potential increases slightly with an increase in current
- D. the barrier potential decreases slightly with an increase in current

3) ince diodes are destroyed by excessive current, circuits must have:

- A. higher voltage sources
- B. current limiting resistors
- C. more dopants
- D. higher current sources

4) Testing a good diode with an ohmmeter should indicate

- A. high resistance when forward or reverse biased
- B. low resistance when forward or reverse biased
- C. high resistance when reverse biased and low resistance when forward biased
- D. high resistance when forward biased and low resistance when reverse biased

5) Electrons in the outermost orbit or shell of an atom are called

- A. free electrons
- B. negative ions
- C. valence electrons
- D. conduction band electrons

6) A pn junction allows current flow when

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- A. the p -type material is more positive than the n -type material
- B. the n -type material is more positive than the p -type material
- C. both the n -type and p -type materials have the same potential
- D. there is no potential on the n -type or p -type materials

7) When a diode is forward biased, the voltage across it

- A. is directly proportional to the current
- B. is inversely proportional to the current
- C. is directly proportional to the source voltage
- D. remains approximately the same

8) Why is heat produced in a diode?

- A. due to current passing through the diode
- B. due to voltage across the diode
- C. due to the power rating of the diode
- D. due to the PN junction of the diode

9) The arrow in the schematic symbol of a diode points to

- A. the n -type material, which is called the anode
- B. the n -type material, which is called the cathode
- C. the p -type material, which is called the anode
- D. the p -type material, which is called the cathode

10) When checking a diode, low resistance readings both ways indicate the diode is:

- A. open
- B. satisfactory
- C. faulty
- D. not the problem

1	2	3	4	5	6	7	8	9	10

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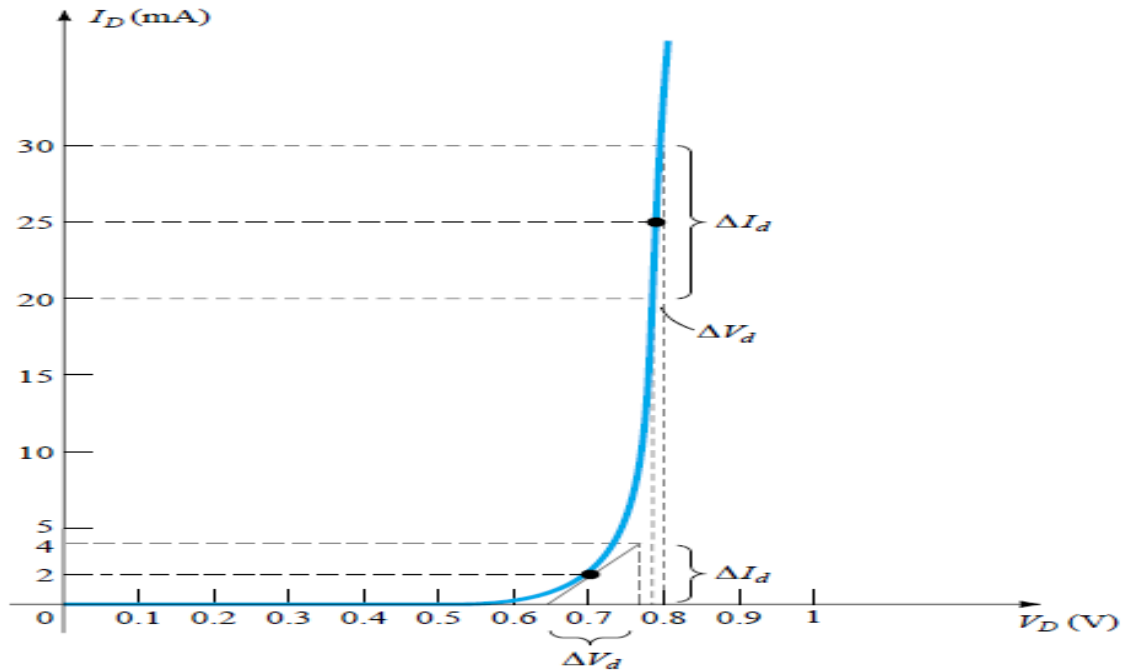
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Question Three:

(05/15)

For the characteristic of the following figure:

- A) Determine the ac resistance at $I_D = 2$ mA.
- B) Determine the ac resistance at $I_D = 25$ mA.
- C) Calculate the DC and AC resistors.



End of Questions
Good Luck