

### Question block created by wizard

This exam contains 20 questions.

1. What kind of diode symbol is shown here?



- (a) This is the symbol of a varicap diode.
- (b) This is the symbol of a tunnel diode.
- (c) This is the symbol of a zener diode.

*If choice c is selected set score to 1.*

2. When is a diode conducting?

- (a) When the anode is positive with respect to the cathode.
- (b) When the anode is negative with respect to the cathode.
- (c) When the cathode is positive with respect to the anode.

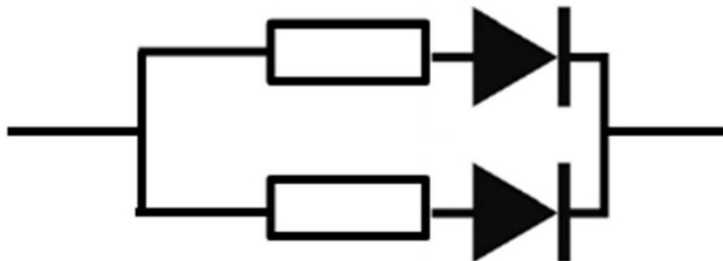
*If choice a is selected set score to 1.*

3. How can a regulated power supply of 4.9 Volt be constructed with standard Si-diodes?

- (a) This can be done by connecting diodes in parallel. A total of 7 diodes is necessary.
- (b) It is not possible to obtain a regulated power supply this way.
- (c) This can be done by connecting diodes in series. A total of 7 diodes is necessary.

*If choice c is selected set score to 1.*

4. See figure. This circuit is used if....



- (a) a regulated power supply is required.
- (b) the current of the circuit proves to be too high for one diode.
- (c) the breakdown voltage of one diode proves to be too low for one diode.

*If choice b is selected set score to 1.*

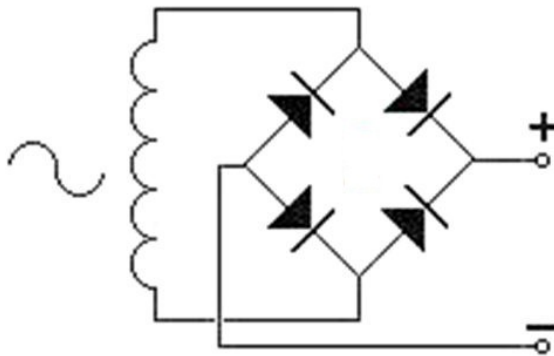
5. What is a requirement to turn a thyristor on?
- (a) The voltage between Anode and Cathode must be low.
  - (b) The gate current must be zero.
  - (c) A sufficient conducting current must flow.

*If choice c is selected set score to 1.*

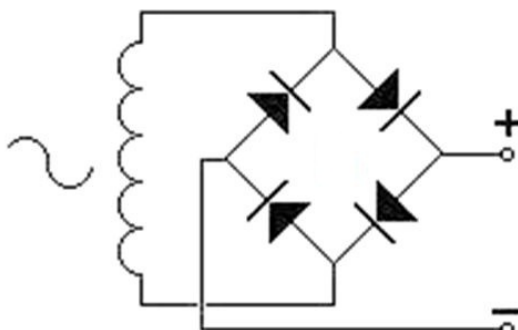
6. In which mode is a photodiode operated?
- (a) Photovoltaic or photoconductive mode.
  - (b) Photovoltaic mode.
  - (c) Photoconductive mode.

*If choice a is selected set score to 1.*

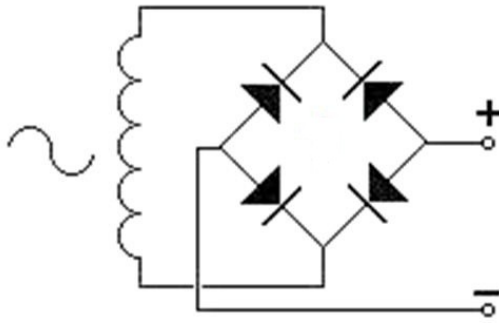
7. See pictures. Which picture depicts the correct Graetz rectifier?



- (a)



- (b)



- (c)

*If choice a is selected set score to 1.*

**8.** A diode, measured both ways with an ohm meter, indicates zero both ways. What is your conclusion about this diode?

- (a) The diode is shorted and defective.
- (b) The diode is open and defective.
- (c) The diode is good.

*If choice a is selected set score to 1.*

**9.** See picture. This is the symbol of a .....



- (a) NPN transistor.
- (b) PNP transistor.
- (c) N-channel FET.

*If choice b is selected set score to 1.*

**10.** See figure. What are the names of the leads of this transistor.



- (a) Anode, Cathode, Gate.
- (b) Drain, Source, Gate.

- o (c) Base, Emitter, Collector.

*If choice b is selected set score to 1.*

**11.** For which kind of application is the common base amplifier very useful?

- o (a) Inverting the input signal.
- o (b) Impedance matching.
- (c) RF amplification.

*If choice c is selected set score to 1.*

**12.** What is an advantage of a FET compared to bipolar transistor?

- (a) The input impedance of a FET is higher.
- o (b) The gain of a FET is higher.
- o (c) The input impedance of a FET is lower.

*If choice a is selected set score to 1.*

**13.** What is a basic characteristic of an ideal operational amplifier?

- o (a) The input impedance is finite.
- (b) The input impedance is infinite.
- o (c) The input impedance is zero.

*If choice b is selected set score to 1.*

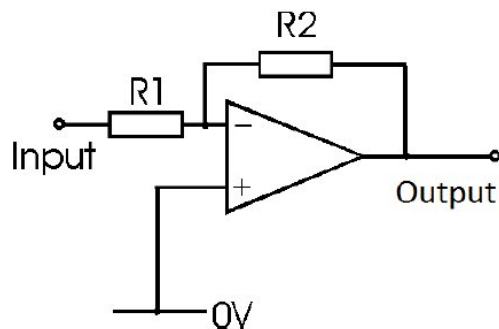
**14.** From what type of gate is the truth-table shown here?

A	B	Output
0	0	0
0	1	1
1	0	1
1	1	1

- o (a) This is an AND-gate.
- o (b) This is a NOR-gate.
- (c) This is an OR gate.

*If choice c is selected set score to 1.*

15. What will happen with a signal supplied to the input of this amplifier?



- (a) The signal will appear attenuated at the output.
- (b) The signal will appear inverted at the output.
- (c) The signal will appear not inverted at the output.

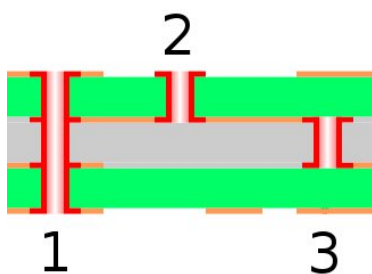
*If choice b is selected set score to 1.*

16. What does the abbreviation SMD mean?

- (a) Surface Mounted Device.
- (b) Simple Manipulated Device.
- (c) Simple Mixed Devices.

*If choice a is selected set score to 1.*

17. How is the connection number 3 named?



- (a) A via.
- (b) A blind via.
- (c) A buried via.

*If choice c is selected set score to 1.*

18. What is a closed loop servo system?

- (a) This is a servo system with a positive feedback.

- o (b) This is a servo system with a differential feedback.
- (c) This is a servo system with a negative feedback.

*If choice c is selected set score to 1.*

**19.** What is meant with an "error signal"?

- (a) This is the difference between the "wanted value" and the "actual value".
- o (b) This is the difference between the "wanted value" and the position of the input servo.
- o (c) This is the difference between the "actual value" and the position of the output servo.

*If choice a is selected set score to 1.*

**20.** When is a capacitive fuel capacity meter most accurate?

- o (a) When the tank is 100% filled.
- (b) When the tank is 20% filled.
- o (c) When the tank is 50% filled.

*If choice b is selected set score to 1.*

***If assessment score is 75% to 100% Pass  
If assessment score is 0% to 74% Fail***