

Name

Quiz on Semiconductor Devices

Total questions: 14

Worksheet time: 7mins

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Class

Date

1. What was the primary device used for electron control before 1948?
 - a) Integrated Circuits
 - b) Transistors
 - c) Diodes
 - d) Vacuum Tubes

2. Which of the following is NOT a type of vacuum tube?
 - a) Pentode
 - b) Tetrode
 - c) Hexode
 - d) Triode

3. What is a major limitation of vacuum tubes?
 - a) Compact size
 - b) High reliability
 - c) Low power consumption
 - d) High power consumption

4. What discovery in the 1930s showed promise for controlling charge flow?
 - a) Transistors
 - b) Vacuum Tubes
 - c) Diodes
 - d) Semiconductors

5. Which of the following is an advantage of semiconductor devices?
 - a) Compact size
 - b) High power requirement
 - c) High voltage operation
 - d) Fragility

6. What was the first semiconductor device used in early radios?
 - a) Vacuum tube
 - b) Crystal detector
 - c) Integrated circuit
 - d) Transistor

7. What year marked the invention of the transistor?
 - a) 1948
 - b) 1945
 - c) 1950
 - d) 1930

8. Which of the following features distinguishes semiconductor devices from vacuum tubes?
 - a) Low voltage operation
 - b) Fragility
 - c) High power consumption
 - d) Large size

9. What impact did the transition to semiconductor devices have on technology?
 - a) Increased size of devices
 - b) Reduced power efficiency
 - c) Enabled miniaturization
 - d) Limited applications

10. Which of the following is a characteristic of vacuum tubes?
 - a) Operated at low voltages
 - b) Compact
 - c) Robust
 - d) Bulky and fragile

11. What is a key benefit of semiconductors over vacuum tubes?
 - a) High power consumption
 - b) Require vacuum
 - c) High voltage operation
 - d) Long lifespan

12. What type of devices emerged from the development of solid-state electronics?
 - a) Only diodes
 - b) Only integrated circuits
 - c) Only vacuum tubes
 - d) Diodes, transistors, and integrated circuits

13. What was a significant factor in the transition from vacuum tubes to semiconductors?
- a) Advances in vacuum technology
 - b) Increased size of devices
 - c) Higher power requirements
 - d) Advances in solid-state physics
14. Which of the following statements is true regarding semiconductor devices?
- a) They are larger than vacuum tubes
 - b) They do not require external heating
 - c) They operate at high voltages
 - d) They are less reliable than vacuum tubes

Answer Keys

1. d) Vacuum Tubes
2. c) Hexode
3. d) High power consumption
4. d) Semiconductors
5. a) Compact size
6. b) Crystal detector
7. a) 1948
8. a) Low voltage operation
9. c) Enabled miniaturization
10. d) Bulky and fragile
11. d) Long lifespan
12. d) Diodes, transistors, and integrated circuits
13. d) Advances in solid-state physics
14. b) They do not require external heating

