

Semiconductors Quiz PDF

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Which device allows current to flow in only one direction?

- Transistor
- Resistor
- Diode
- Capacitor

What is the process of adding impurities to a semiconductor to change its electrical properties called?

- Etching
- Doping
- Deposition
- Lithography

What is the term for the process by which electrons and holes recombine in a semiconductor?

- Generation
- Recombination
- Ionization
- Polarization

What is the primary material used in the manufacturing of most semiconductor devices?

- Germanium
- Silicon
- Gallium Arsenide
- Copper

Which type of semiconductor is created by adding impurities to increase the number of free electrons?

- Intrinsic

- P-type
- N-type
- Insulator

What are the challenges faced in the miniaturization of semiconductor devices?

Discuss the significance of the band gap in determining the properties of a semiconductor.

What is the energy difference between the valence band and the conduction band in a semiconductor called?

- Energy Level
- Band Gap
- Conductivity
- Electron Volt

Describe the role of doping in modifying the electrical properties of semiconductors.

What are the primary charge carriers in semiconductors? (Select all that apply)

- Electrons
- Holes
- Neutrons
- Protons

Which of the following are common semiconductor materials? (Select all that apply)

- Silicon
- Germanium
- Gallium Arsenide
- Copper

Who is credited with the invention of the first transistor?

- Nikola Tesla
- Thomas Edison
- John Bardeen
- Alexander Graham Bell

What advancements are being explored in semiconductor materials? (Select all that apply)

- Graphene
- Silicon Carbide
- Iron
- Plastic

Explain the difference between intrinsic and extrinsic semiconductors.

Which processes are involved in semiconductor fabrication? (Select all that apply)

- Photolithography
- Etching
- Soldering
- Deposition

How have semiconductors impacted the field of electronics and technology as a whole?

Which devices are considered semiconductor devices? (Select all that apply)

- Diode
- Transistor
- Resistor
- Integrated Circuit

How does Moore's Law relate to the development of semiconductor technology?

Which type of transistor is commonly used in digital circuits?

- Bipolar Junction Transistor (BJT)
- Field-Effect Transistor (FET)
- Vacuum Tube
- Light-Emitting Diode (LED)

Which of the following are applications of semiconductors? (Select all that apply)

- Microprocessors
- Solar Cells
- Mechanical Gears
- Photodetectors