27 Lecture - PHY301

Important Mcqs

What is intrinsic silicon?

a. A type of metal

b. A type of semiconductor material made from pure silicon atoms

c. A type of insulator

d. A type of superconductor

Answer: b

What is the bandgap of intrinsic silicon?

a. 0.5 eV

b. 1.12 eV

c. 1.5 eV

d. 2.0 eV

Answer: b

How does intrinsic silicon conduct electricity?

a. Through the movement of free electrons only

b. Through the movement of holes only

c. Through the movement of both free electrons and holes

d. Intrinsic silicon does not conduct electricity

Answer: c

What is the photoelectric effect?

a. The movement of free electrons and holes in a semiconductor material

b. The generation of a flow of electricity when light strikes the surface of a material

c. The ability of a material to resist the flow of electricity

d. The transfer of heat between two objects

Answer: b

How is intrinsic silicon different from doped silicon?

a. Intrinsic silicon is a metal, while doped silicon is a semiconductor

b. Intrinsic silicon has impurities added to it, while doped silicon is pure

c. Intrinsic silicon is a semiconductor made from pure silicon atoms, while doped silicon has impurities added to alter its electronic properties

d. Intrinsic silicon and doped silicon have the same electronic properties

Answer: c

What is the crystal structure of intrinsic silicon?

a. Amorphous

b. Polycrystalline

c. Crystalline

d. Liquid

Answer: c

What is the role of electrons in the electronic properties of intrinsic silicon?

a. Electrons are not involved in the electronic properties of intrinsic silicon

b. Electrons are responsible for the ability of intrinsic silicon to conduct electricity

c. Electrons are responsible for the color of intrinsic silicon

d. Electrons are responsible for the strength of intrinsic silicon

Answer: b

What are some electronic devices that use intrinsic silicon?

a. Transistors, diodes, and solar cells

b. Batteries, resistors, and capacitors

c. Microphones, speakers, and headphones

d. Antennas, filters, and amplifiers

Answer: a

What is p-type silicon?

a. Silicon with an excess of free electrons

b. Silicon with a surplus of holes

c. Silicon with both an excess of free electrons and a surplus of holes

d. Silicon without any impurities

Answer: b

Why is intrinsic silicon an ideal semiconductor material?

a. Because it has a large bandgap

b. Because it is a good insulator

c. Because it is a good conductor of electricity

d. Because of its unique electronic properties, including its small bandgap and ability to conduct electricity through the movement of free electrons and holes

Answer: d