

BSCS-409: Materials, Semiconductors and Devices

Credit Hour (2+1)

Materials: Crystalline and non-crystalline solids, Energy bands in solids, Types of materials, Metals, Semiconductors, Imperfections in solids..

Semiconductors: Extrinsic and Intrinsic semiconductors, Conductivities of semiconductors, important semiconductors, Effect of temperature on semiconductors, Semiconductor growth, cutting, diffusion. Integrated Circuits (ICs).

Devices: PN junction, Semiconductor diode and Zener diode, Bipolar transistors, Junction Field Effect Transistor (JFET), Metal Oxide Semiconductor Field Effect Transistor (MOSFET). Solar Cells. Display Devices Liquid Crystals.

Recommended Books :

1. ELECTRONIC PRINCIPLES
By Albert Malvino | David Bates
Eighth Edition
2. ELECTRONIC DEVICES
By Thomas L. Floyd
Ninth Edition