

Applied Physics Simplified

Quantum Mechanics:

1. [Introduction To Quantum Mechanics](#)
2. [De-Broglie's Hypothesis](#)
3. [Wave-Particle Duality](#)
4. [Time-independent Schrodinger equation for wave function](#)
5. [Physical significance of the wave function](#)
6. [Schrodinger's equation for one-dimensional problems, particle in a box](#)

Introduction To Solids And Semiconductors:

1. [Introduction to classical free electron theory and quantum theory](#)
2. [Bloch's theorem for particles in a periodic potential](#)
3. [Kronig-Penney model](#)
4. [Classification Of Metals](#)
5. [Hole Concentration in Intrinsic Semiconductors](#)
6. [Carrier Concentration in Extrinsic Semiconductors](#)
7. [Fermi Level and Intrinsic Carrier Concentration](#)
8. [Variation of Fermi Level in Extrinsic Semiconductors](#)
9. [Carrier Concentration in Extrinsic Semiconductors 'P' Type](#)
10. [Hall Effect](#)

Semiconductor Devices:

1. [Direct & Indirect Band Gap in Semiconductors](#)
2. [P-N Junction & V-I Characteristics](#)

3. [Energy Band Diagram](#)
4. [Zener Diode](#)
5. [Construction & Working of LED](#)
6. [Photo Detectors](#)
7. [PIN & Avalanche Photo Diode](#)
8. [Solar Cell](#)

Engineered Electric And Magnetic Materials:

1. [Introduction to Engineered Electric and Magnetic Materials](#)
2. [Types of Polarization](#)
3. [Internal Field in Solids & Clausius Mosotti Equation](#)
4. [Ferro Electricity](#)
5. [Magnetism – Permeability and Susceptibility](#)
6. [Classification of Magnetic Materials](#)
7. [Hysteresis in Magnetic Materials](#)

Lasers And Fiber Optics:

1. [Introduction to Laser Characteristics of Lasers, Spontaneous and Stimulated Emission](#)
2. [Basic Concepts Metastable State, Population Inversion, Lasing Action](#)
3. [Ruby Laser](#)
4. [He - Ne Laser](#)
5. [Applications of Laser](#)
6. [Principle of Working and Construction of Optical Fibers](#)
7. [Acceptance Angle and Numerical Aperture](#)
8. [Types of Optical Fiber](#)

9. [Optical Fiber Communication](#)

Problems And Miscellaneous Videos (In Chronology):

1. [Definitions and Terminology - Introduction to Quantum Physics](#)
2. [Numericals – De Broglie Wavelength](#)
3. [Numericals on Particle in a Box Problem](#)
4. [Discussion on Tutorial Question Bank Introduction to Quantum Physics](#)
5. [Definitions and Terminology - Introduction to Solids & Semiconductors](#)
6. [Numericals based on Charge Carrier Concentration](#)
7. [Numericals Based on Hall Effect](#)
8. [Tutorial Question Bank - Introduction to Solids and Semiconductors](#)
9. [Semiconductor Devices Definitions and Terminology](#)
10. [Semiconductor Devices Discussion on Question Bank](#)
11. [Engineered Electric & Magnetic Materials Definitions](#)
12. [Analytical Problems on Magnetization, Permeability & Susceptibility](#)
13. [Electric and Magnetic Materials Discussion](#)
14. [Definitions and Terminology - Lasers And Fiber Optics](#)
15. [Numericals in Laser](#)
16. [Problems on Optical Fiber](#)
17. [Laser and Fiber Optics Discussion on Tutorial Question Bank](#)
18. [Applied Physics - Course Description on Outcome Based Education](#)



Extracted by Abhiram Mangipudi



Edited and Posted by Yuvaraj Vasam

Please note that the links are clickable and will direct you to the corresponding YouTube videos.