

# Fundamentals of Electronics(Four Volume Set)

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## About the Book

*Fundamentals of Electronics* has been designed in four volumes based on thematic unity, primarily for use by B. Tech students of all branches of engineering for the core course offered variously as Basic Electronics, Basic Electrical Engineering and Basics of Electronics Engineering as well as some intermediate level courses in ECE and Instrumentation Engineering. Comprehensive and well organized text discusses the fundamentals of electronic and electrical concepts, which are so essential for an understanding of communication systems. It presents the highlighting core fundamentals without being uniting with advanced or peripheral topics.

It will be a useful resource for GATE/IES/PSU examination for the ECE branch and electronics and instrumentation engineers as well.

## Salient Features

**Vol. 1** Comprises of four chapters describing the basic operations of each of the four fundamental building blocks of modern electronics. Giving clear understanding of each of the devices when it is operated in equilibrium.

**Vol. 2** Fundamentals of amplifiers performance is described in four chapters.

**Vol. 3** It is comprised of three chapters that describe the frequency dependent response of electronic circuits.

**Vol. 4** Further develops practical electronic applications based on the fundamental principle developed in the first three books.

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### Vol 1: Electronic Devices and Circuit Applications

Operational Amplifiers and Applications  
Diode Characteristics and Circuits  
Bipolar Junction Transistor Characteristics  
Field Effect Transistor Characteristics

### Vol 2: Amplifiers: Analysis and Design

Single Transistor Amplifiers  
Multiple-Transistor Amplifiers  
Power Amplifiers and Output Stages  
Feedback Amplifier Principles

### Vol 3: Active Filters and Amplifier Frequency Response

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Feedback Amplifier Frequency Response

### Vol 4: Oscillators and Advanced Electronics

Oscillator Circuits  
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Power Circuits  
Communication Circuits  
Digital Circuits

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## About the Author

**Thomas Schubert** :- received BS, MS, and PhD degrees in Electrical Engineering from the University of California at Irvine (UCI). He was a member of the first engineering graduating class and the first triple-degree recipient in engineering at UCI. His doctoral work discussed the propagation of polarized light in anisotropic media. Dr. Schubert arrived at the University of San Diego in August, 1987 as one of the two founding faculty of its new Engineering Program. From 1997-2003, he led the Department as Chairman, a position that became Director of Engineering Programs during his leadership tenure. Prior to coming to USD, he was at the Space and Communications Division of Hughes Aircraft Company, the University of Portland, and Portland State University. He is a Registered Professional Engineer in the State of Oregon. In 2012, Dr. Schubert was awarded the Robert G. Quinn Award by the American Society of Engineering Education "in recognition of outstanding contributions in providing and promoting excellence in engineering experimentation and laboratory instruction."

**Ernest Kim** :- received his B.S.E.E. from the University of Hawaii at Manoa in Honolulu, Hawaii in 1977, an M.S.E.E. in 1980 and Ph.D. in Electrical Engineering in 1987 from New Mexico State University in Las Cruces, New Mexico. His dissertation was on precision near-field exit radiation measurements from optical fibers. Dr. Kim worked as an Electrical Engineer for the University of Hawaii at the Naval Ocean Systems Center, Hawaii Labs at Kaneohe Marine Corps Air Station after graduating with his B.S.E.E. Upon completing his M.S.E.E., he was an electrical engineer with the National Bureau of Standards in Boulder, Colorado designing hardware for precision fiber optic measurements. He then entered the commercial sector as a staff engineer with Burroughs Corporation in San Diego, California developing fiber optic LAN systems. He left Burroughs for Tacan/IPITEK Corporation as Manager of Electro-Optic Systems developing fiber optic CATV hardware and systems. In 1990 he joined the faculty of the University of San Diego. He remains an active consultant in radio frequency and analog circuit design, and teaches review courses for the engineering Fundamentals Examination. Dr. Kim is a member of the IEEE, ASEE, and CSPE. He is a Licensed Professional Electrical Engineer in California.