

## About the IEEE

The Institute of Electrical and Electronics Engineers Inc. (IEEE), a nonprofit organization, is the world's leading professional association for the advancement of technology.

Through its global membership, the IEEE is a leading authority on areas ranging from aerospace systems, computers and telecommunications to biomedical engineering, electric power and consumer electronics among others. The IEEE has more than 365,000 members, including 68,000 students, in over 150 countries. It publishes 128 transactions, journals and magazines and organizes more than 300 conferences worldwide each year.

To foster an interest in the engineering profession, the IEEE also serves student members in colleges and universities around the world.

IEEE Madras Section came into existence in 1978 and has crossed its silver jubilee year. It is organizing Technical Meets, Conferences and Seminars of highest standard for the benefit of its members. The section today has the highest number of student branches among the sections in the world. The section is concerned about the welfare of the students in this part of the country and wants to improve the teaching learning process in the Engineering Colleges and Universities. With this in mind, the section is organizing Faculty Development Programme (FDP) for the teaching faculty members of Engineering Colleges and Universities in Tamil Nadu.

## Faculty Development Programme:

Teaching-learning is an important process in academic institutions. Transfer of knowledge takes place from the teacher to the students only

when the teaching is effective. The young teachers need orientation and training in effective teaching. As a service to the teaching community in the engineering institutions, IEEE Madras Section is organizing Faculty Development Programme (FDP) on the topic listed overleaf. The instructors for this programme are from IIT Madras.

## Schedule:

The Course on "Semiconductor Devices and Analog Circuits" is proposed to be held on April 26 and 27, 2008. The programme will be for two days with 4 sessions, each of 3 hours duration.

## Participants:

The FDP is aimed at faculty members of Engineering colleges in Tamil Nadu, specifically for those who have taught courses on Semiconductor Devices and Analog Circuits for at least two years. The objective of the courses is to impart the ability to communicate better with students as well as solve the drill problems given at the end of chapters in standard textbooks.

## Course Fee:

There is no course fee for IEEE members and for non-members the course fee is Rs.1000/. Non members will be refunded the course fee if they become member within one year. The number of seats is limited and the participants will be chosen on a first-come-first-served basis provided they satisfy the criterion of having taught a course in related area. The fee includes course material and lunch. Accommodation and transport will be the responsibility of the participants. Accommodation may be provided in Student hostel/ Institute guest house (on payment basis) subject to availability. Specific request has to be made in advance to the IEEE office.

## Details of the Present Course

### Course

Title : Semiconductor Devices and Analog Circuits

### Course Contents:

- ☆ Operation and Modelling of BJT
- ☆ Operation and Modelling of MOSFET
- ☆ Negative feedback and opamps: Basic negative feedback; concept of the ideal opamp; Assigning signs to the opamp; Analysis of circuits containing opamps; Stability criteria for negative feedback circuits.
- ☆ On chip biasing circuits: Principle of biasing transistors; Replication of bias current; Current mirrors; Cascode current mirrors; Replica biasing for accurate current mirroring.

### Course Instructors:

Prof. Nandita DasGupta  
Prof. Amitava DasGupta  
Prof. Nagendra Krishnapura  
Prof. Y. Shanthy Pavan

