

- Basics of semiconductor physics, p-n junction diodes, Metal-semiconductor contacts, BJTs, MOS capacitors, MOSFETs, optoelectronic devices, Advanced semiconductor devices: MESFETs, HBTs, HEMTs, MODFETs.
- **Power Electronics**
 - Controlled rectifiers: full/half controlled converters, dual converters, sequence control. AC regulator circuits, reactive power compensators. dc-dc converters, switching dc power supplies. Inverters: square wave and pwm types, filters, inverters for induction heating and UPS
- **Principles of Communication**
 - Information measures. Source coding. ISI channel equalization, partial response signalling. PLLs and FM threshold extension.
- **Control Systems Analysis**
 - Linear feedback control systems, frequency and time domain analysis, I/O relationships, transfer function, performance analysis, Routh-Hurwitz and Nyquist stability criteria, Bode diagrams
- **Digital Electronics**
 - Analysis of digital logic families: TTL, MOS, CMOS Inverters; interfacing between logic families; various logic functions and their implementation; Bistable circuits- R-S, J-K, D and PLA; Design of synchronous sequential circuits
- **Electromagnetic Theory**
 - Basics of Static electric and magnetic fields, Energy in fields, Maxwells equations, plane EM waves, Propagation in free space and in matter, Reflection and refraction, Guided EM waves, Transmission lines, Radiation of EM waves.

POSITIONS OF
RESPONSIBILITY

Junior Executive Professional affairs

Feb'14-Mar'14

- Ensured smooth conduct of more than 40 events and exhibition.
- Managed Hospitality of guests from Embassy of Israel.

EXTRA-
CURRICULAR
ACTIVITIES

- Actively involved in Institute Cricket Team, IIT Kanpur.
- Participation in various intra institute competitions of robotics.