SUBJECT NO-PH60105, SUBJECT NAME- SEMICONDUCTOR PHYSICS

LTP- 3-0-0,CRD- 3

SYLLABUS :-

Electron and hole statistics in semiconductors, semiconductor band structure, doping in semiconductors, transport properties, semiconductor heterostructures, charge carrier recombination, diffusion of electron and holes, equation of continuity, carrier injection, p-n junction : current- voltage characteristics, physical model of p-n junction, junction capacitance and width, breakdown phenomena, metal-semiconductor junction, rectification at metal-semiconductor junction, Schottky-diffusion theory, photoconductivity, bipolar transistors (principle and characteristics), principle of operation of FET, photovoltaic effect.