SUBJECT NO-EC60110, SUBJECT NAME- TECHNOLOGY CAD

LTP- 3-0-0,CRD- 3

SYLLABUS :-

Pre-requisites: EC21007Introduction and overview; History and structures; The role of TCAD for Semiconductor technology development ; TCAD principles; Tool integration; Structure editing and mesh generation; Process technology Si, SiGe, III-V semiconductors; Process simulation ÃÂ¢ÃÂÃÂ general; Simulation of device characteristics; Device level simulation challenges; Introducing new device models; Heterojunction device modeling; Simulation of silicon germanium HBTs; Simulation of heterostructure FETs; Simulation of AlGaAs/ GaAs devices; VWF automation tools; Example of VWF methodology; Extraction of DC and AC SPICE model parameters; Small signal AC analysis for CMOS and bipolar transistors; Application of mixed-mode simulation; TCAD calibration procedure; Integration into the CADENCE design framework.