11EC313 MICROWAVE INTEGRATED CIRCUITS

Credits: 4:0:0

Course Objective
To study the different technologies of microwave integrated circuits and to analyze the microstrip line.

Course Outcome
It will be helpful to design and fabricate different lumped elements and nonreciprocal components.

Unit 1

Unit II

Unit III
Coupled Microstrips- Slot Line and Coplanar Waveguides: Coupled microstrips – even and odd mode analysis – microstrip directional couplers – branch lines couplers – periodic branch line couplers – synchronous branch line couplers.

Unit IV

Unit V
Microwave Circuit Design: Microwave amplifier Design – Two port power gain- stability - single stage transistor amplifier design- low noise amplifier design- broad band amplifier design. Microwave Oscillator Design- negative resistance oscillator- transistor oscillators design- dielectric resonator oscillator design- oscillator phase noise- Periodic structures- Analysis of infinite- terminated periodic structures – filter design by image parameter method- insertion loss method -Distributed element (transmission line/TEM) filters.

Text Books

Reference Books