

MICROWAVE ENGINEERING LAB
PCC-ECE301-P

Course Credits :1 Contact Hours: 2Hours/week Mode : Lab Work	Course Assessment Methods (Internal: 30; External: 70)
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Sr. No.	Course Outcomes At the end of the semester, students will be able:	RBT Level
CO 1	To state the practical concepts of generation of microwave signal	L1
CO 2	To describe the various parameters related to microwave components.	L2
CO 3	To classify various microwave components	L3
CO 4	To Examine the microwave frequency signals and how it is measured.	H1
CO 5	To evaluate microwave systems for different practical application.	H2
CO 6	To create a model for microwave frequency generation.	H3

List of Experiments

1. Study of wave guide components.
2. To study the characteristics of Reflex Klystron and determine its tuning range.
3. To measure frequency of microwave source and demonstrate relationship among guide dimensions, free space wave length and guide wavelength.
4. To measure VSWR of unknown load and determine its impedance using a smith chart.
5. To match impedance for maximum power transfer using slide screw tuner.
6. To measure VSWR, insertion losses and attenuation of a fixed and variable attenuator.
7. To measure coupling and directivity of direction couplers.
8. Study of Power Division in Magic Tee.
9. To measure insertion loss, isolation of a three port circulator.
10. To measure the Radiation Pattern and Gain of Waveguide Horn Antenna.
11. To study the V-I characteristics of GUNN diode.

Note: At least eight experiments are to be performed in the semester, out of which minimum six experiments should be performed from above list. Remaining experiments may either be performed from the above list or designed and set by concerned institution as per the scope of the syllabus.