

## EC451- MICROWAVE ENGINEERING LAB

### **Course Description & Objectives:**

*The lab course will give a practical exposure to students to learn the characteristics of Microwave components.*

*To gain the practical hands on experience by exposing the students to various microwave components.*

### **Course outcomes:**

*On completion of this lab course the students will be able to:*

- a. Able to handle microwave equipment*
- b. Able to understand microwave measurements.*
- c. Able to understand Wave guide and antenna measurements*

### **List of Experiments:**

1. To verify the relationship between free space wavelength, Guide Wavelength and Cut-off wavelength.
2. Measurement of Low and High VSWR using Microwave bench.
3. Radiation pattern Measurement of rectangular wave-guide.
4. Radiation pattern Measurement of twisted wave-guide.
5. Radiation pattern Measurement of Horn Antenna
6. Gain measurement for Horn Antenna
7. Radiation pattern Measurement of Parabolic Dish Antenna
8. Attenuation measurement.
9. Scattering parameters of circulator.
10. Scattering parameters of magic Tee.
11. Measurement of coupling factor and directivity of directional coupler.
12. Mode characteristics of reflex klystron.
13. Characteristics of Gunn Oscillator.