

## **IV Year – I SEMESTER**

### **MICROWAVE ENGINEERING LAB**

#### **Minimum Twelve Experiments to be conducted:**

##### **Part – A (Any 7 Experiments) :**

- Reflex Klystron Characteristics.
- Gunn Diode Characteristics.
- Attenuation Measurement.
- Directional Coupler Characteristics.
- VSWR Measurement.
- Impedance and Frequency Measurement.
- Waveguide parameters measurement.
- Scattering parameters of Circulator.
- Scattering parameters of Magic Tee.

##### **Part – B (Any 5 Experiments ) :**

- Characterization of LED.
- Characterization of Laser Diode.
- Intensity modulation of Laser output through an optical fiber.
- Measurement of Data rate for Digital Optical link.
- Measurement of NA.
- Measurement of losses for Analog Optical link.

#### **Equipment required for Laboratories:**

- Regulated Klystron Power Supply
- VSWR Meter -
- Micro Ammeter - 0 – 500  $\mu$ A
- Multi meter
- CRO
- GUNN Power Supply, Pin Modulator
- Reflex Klystron

Crystal Diodes

Micro wave components (Attenuation)

Frequency Meter

Slotted line carriage

Probe detector

wave guide shorts

Pyramidal Horn Antennas

Directional Coupler

E, H, Magic Tees

Circulators, Isolator

Matched Loads

Fiber Optic Analog Trainer based LED

Fiber Optic Analog Trainer based laser

Fiber Optic Digital Trainer

Fiber cables - (Plastic, Glass)