

4/4 B.Tech - SEVENTH SEMESTER

EC7L1

Microwave & Optical Communication Lab

Credits: 2

Lecture : ---

Internal assessment: 25 marks

Lab : 3 periods/week

Semester end examination: 50 marks

Course Objectives:

- To understand and learn the behaviour and performance of various Microwave Sources, Passive devices
- To understand and learn the working and performance of LED and LASER sources and their applications

Learning Outcomes:

- Students have on hand experience to work with microwave sources reflex klystron, Gunn diode & optical sources LED's & Lasers.
- Students will be able to conduct microwave measurements using a standard microwave test bench. & measurements in analog & digital optical links for optical signal characteristics.

List of Experiments:

Part – A: (Any 7)

1. Reflex Klystron Characteristics.
2. Gunn Diode Characteristics.
3. Attenuation Measurement.
4. Directional Coupler Characteristics.
5. VSWR Measurement.
6. Impedance and Frequency Measurement.
7. Waveguide parameters measurement.
8. Scattering parameters of Circulator.
9. Scattering parameters of Magic Tee.

Part – B: (Any 5) :

10. Characterization of LED.
11. Characterization of Laser Diode.
12. Intensity modulation of Laser output through an optical fiber.
13. Measurement of Data rate for Digital Optical link.
14. Measurement of NA.
15. Measurement of losses for Analog Optical link.