

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

Prerequisites: Microwave Engineering (EC6T3), Optical Communications (EC 7T1)

Course Objectives:

- To understand the behavioral aspects of various microwave sources and optical sources
- To learn the measurement procedures of important parameters in microwave engineering and optical engineering

Learning Outcomes:

Student will be able to

- Posses hands-on experience to work with microwave sources like reflex klystron, Gunn diode and optical sources like LED's & Lasers.
- Conduct measurements using a standard microwave test bench, analog and digital optical links for microwave and 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 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 numerical aperture.
15. Measurement of losses in plastic fiber.