

COURSE CODE	COURSE NAME	L-T-P-C	YEAR OF INTRODUCTION
EC431	COMMUNICATION SYSTEMS LAB (OPTICAL & MICROWAVE)	0-0-3-1	2016
Prerequisite: EC403 Microwave & Radar Engineering, EC405 Optical Communication			
Course objectives: <ul style="list-style-type: none"> To provide practical experience in design, testing, and analysis of few electronic devices and circuits used for microwave and optical communication engineering. 			
List of Experiments Microwave Experiments: (Minimum Six experiments are mandatory) <ol style="list-style-type: none"> GUNN diode characteristics. Reflex Klystron Mode Characteristics. VSWR and Frequency measurement. Verify the relation between Guide wave length, free space wave length and cut off wave length for rectangular wave guide. Measurement of E-plane and H-plane characteristics. Directional Coupler Characteristics. Unknown load impedance measurement using smith chart and verification using transmission line equation. Measurement of dielectric constant for given solid dielectric cell. Antenna Pattern Measurement. Study of Vector Network Analyser Optical Experiments: (Minimum Six Experiments are mandatory) <ol style="list-style-type: none"> Measurement of Numerical Aperture of a fiber, after preparing the fiber ends. Study of losses in Optical fiber Setting up of Fiber optic Digital link. Preparation of a Splice joint and measurement of the splice loss. Power vs Current (P-I) characteristics and measure slope efficiency of Laser Diode. Voltage vs Current (V-I) characteristics of Laser Diode. Power vs Current (P-I) characteristics and measure slope efficiency of LED. Voltage vs Current (V-I) characteristics of LED. Characteristics of Photodiode and measure the responsivity. Characteristics of Avalanche Photo Diode (APD) and measure the responsivity. Measurement of fiber characteristics, fiber damage and splice loss/connector loss by OTDR. 			