

## **Microwave and Optical Communication Laboratory**

Microwave laboratory is instrumental in providing deepen understanding, and provides the necessary practical skills to young mind. Microwave lab is integrated part of intermediate and advance course in Microwave Engineering. This lab also supports the research work in RF Systems, and Antenna design. Engineering undergraduate students perform experiment on microwave bench set up of X band, Ku band frequency range with Klystron and Gunn diode as a source. In this laboratory students also perform practical on antenna parameters measurements. The microwave laboratories provide the necessary hardware and software facility for antenna designing and learning. Various antenna such as wire antenna (Short dipole, dipole, half dipole, broadband dipole, Monopole antenna, folded dipole, loop antenna), Travelling wave antennas (Helical, Yagi-Uda, spiral) Reflector antennas (Parabolic Reflector) are available in the laboratory. Students of post graduate level perform experiments on MIC trainer Kit up to 3 GHz (Filters, Mixers, Amplifiers, diodes). Universal Software Radio Peripheral (USRP) device is also available for advance research in RF communication. Fabrication facility available in this laboratory helps the students to develop the new microwave components and Antenna. Microwave Lab. offers design, analysis and simulation of various components and devices which helps to understand the basics of RF and microwave engineering, to boost the quality of engineering education.

Lab Equipment and supporting software: -

• Vector Network Analyzer (3.2GHz) • Spectrum Analyzers • Digital Storage Oscilloscopes • Microwave Training bench (Klystron Based) • Microwave Training bench (Gunn Based) • Antenna Training Kits • 3 GHz MIC Training Kits • USRP • RF Active and Passive Component Trainer Kit • RF Signal Generator and Detector • Advanced Microstrip Trainer Kit.

The revolution in optical communication technology in the recent past has resulted in its numerous applications like fiber optic communication, free space communication, internet communication, etc. It has led to the widespread usage of optical communication and optical fibers in multiple sectors including telecommunication, medical, defence, government and industrial sectors. The Optical Communication lab in the department of Electronics and Communication Engineering at DTU is primarily focussed at imparting hands-on training to the students about concepts related optical communication such as the various types of fibers, light sources, detectors, amplifiers, modulators, etc employed in optical communication systems. The lab currently has many user licenses of software facilities such as Optisystem, OptiFDTD, OptiSPICE and Matlab which are used by our students to model and simulate the various designs for optical fibers, sensors, modulators, etc; and to evaluate the system performance of a fiber optic network. Additional software tools for the analysis of optical components are also in the purchase pipeline.

 **Department of Electronics  
and Communication Engineering**  
**DELHI TECHNOLOGICAL UNIVERSITY**

**MICROWAVE LABORATORY**

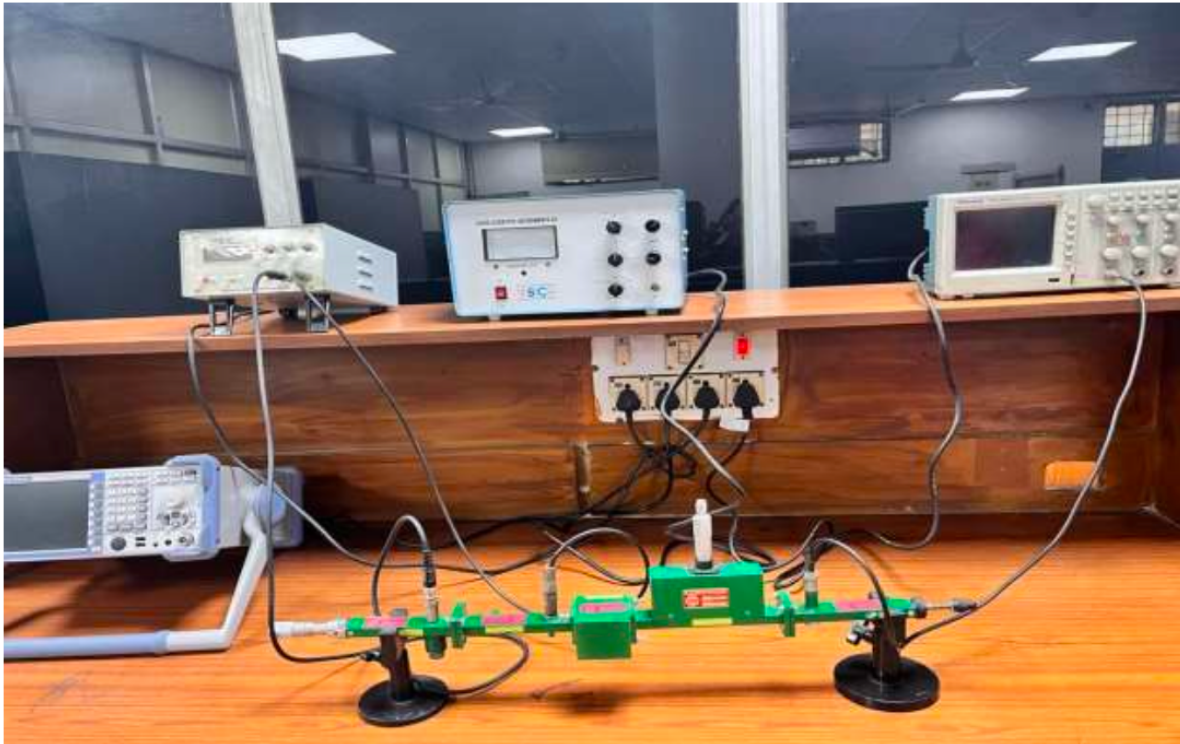
 **Lab Incharge**  
Prof. Priyanka Jain

 **Co- Lab Incharge**  
Dr. Harikesh

 **Technical Assistant**  
Mr. Sunil Kumar

**Lab Attendant**  
Mr. Shashant





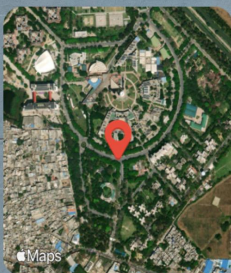












GPS Map Camera

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Saraswati Marg, Kankar Khera, New Delhi, Delhi  
110042, India

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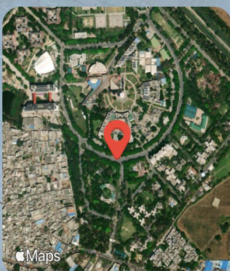
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GPS Map Camera



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110042, India

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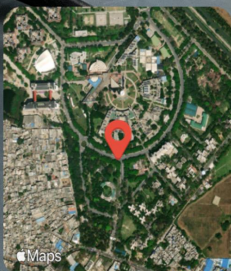
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GPS Map Camera



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110042, India

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