Diploma, Anna Univ UG & PG Courses

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EC8761 ADVANCED COMMUNICATION LABORATORY

DETAILED SYLLABUS

OBJECTIVES:

The student should be made to:

- Understand the working principle of optical sources, detector, fibers
- Develop understanding of simple optical communication link
- Understand the measurement of BER, Pulse broadening
- Understand and capture an experimental approach to digital wireless communication
- Understand actual communication waveforms that will be sent and received across wireless channel

LIST OF OPTICAL EXPERIMENTS

1. Measurement of connector, bending and fiber attenuation losses.

2. Numerical Aperture and Mode Characteristics of Fibers.

3. DC Characteristics of LED and PIN Photo diode.

4. Fiber optic Analog and Digital Link Characterization - frequency response (analog), eye diagram and BER (digital)

LIST OF WIRELESS COMMUNICATION EXPERIMENTS

1. Wireless Channel Simulation including fading and Doppler effects

2. Simulation of Channel Estimation, Synchronization & Equalization techniques

3. Analysing Impact of Pulse Shaping and Matched Filtering using Software Defined Radios
4. OFDM Signal Transmission and Reception using Software Defined Radios

LIST OF MICROWAVE EXPERIMENTS

1. VSWR and Impedance Measurement and Impedance Matching

2. Characterization of Directional Couplers, Isolators, Circulators

3. Gunn Diode Characteristics

4. Microwave IC – Filter Characteristics