III Year B.Tech. ECE I - Semester

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EC331 DIGITAL COMMUNICATIONS LAB

Course Description & Objectives:

This course gives students deep knowledge in digital communication systems at the practical level. This lab focuses the fundamental concepts on TDM, Pulse modulations, digital modulation techniques, source coding techniques and Error-control coding techniques.

Course Outcomes:

On completion of this lab course the students will be able to:

a. *Able to understand basic theories of Digital communication system in practical.*
b. *Able to design and implement different modulation and demodulation techniques.*
c. *Able to analyze digital modulation techniques by using MATLAB tools.*
d. *Able to identify and describe different techniques in modern digital communications, in particular in source coding using MAT Lab tools.*
e. *Able to perform channel coding.*

LIST OF EXPERIMENTS

I. Hard Ware

1. Time Division Multiplexing
2. PAM
3. PPM and PWM
4. Pulse Code Modulation
5. Delta Modulation
6. Amplitude Shift Keying
7. Frequency Shift Keying

8. Phase Shift Keying
9. Differential Phase Shift Keying
10. Quadrature Phase Shift Keying

II. Soft Ware

(i) MATLAB

1. Implementing Convolutional Encoder/Decoder using MATLAB.
2. Implementing Viterbi Algorithm using MATLAB.

(ii) SIMULINK

1. PAM
2. QAM
3. FSK
4. PSK
5. DPSK
6. QPSK

Any twelve experiments

TEXT BOOK :

1. Simon Haykin, Digital communications, JohnWiley, 2005.