

DIGITAL COMMUNICATION LAB

(Core Subject)

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| Course Code: | 10B17EC571 | Semester: | 5 th Semester, B. Tech (ECE) |
| Credits: | 1 | Contact Hours: | L-0, T-0,P-2 |

Course Objectives

1. To know the steps involved in the analysis of digital communication systems.
2. To know how to synthesize a digital communication module with the given specifications.

Course Outcomes

After studying this course the students shall be able to:

1. The ability of visualization and practical implementation of baseband modulation techniques
2. The skill to analyze and implement analogue to digital converters like PCM, DM.
3. The ability to design pass band digital modulation systems and techniques with desired specifications
4. The ability to design pass band digital demodulation techniques

List of Experiments

1. Design and Generation of random binary signals.
2. Study of impairments of signals generated in experiment 1 on passing through a simulated channel by observing Eye Pattern.
3. Generation Unipolar NRZ, Polar NRZ, Unipolar RZ and Polar RZ line codes.
4. Generation Manchester and AMI line codes.
5. Conversion of analogue signal into PCM format and its study.
6. Design and implementation of Delta Modulator for analogue signals.
7. Design, implementation and study of BASK Modulator and demodulator.
8. Design, implementation and study of BPSK Modulator and demodulator.
9. Design, implementation and study of BFSK Modulator and demodulator.
10. Design, implementation and study of multiplexer and de-multiplexer of digital signals using TDM.

Evaluation Scheme

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| 1. Mid Sem Evaluation | 20 Marks |
| 2. End Sem Evaluation | 20 Marks |
| 3. Attendance | 15 Marks |
| 4. Class response | 30 Marks |
| 5. File | 15 Marks |

Total Marks

100 Marks

Text Books

1. Haykin, Simon : An introduction to analog and digital communications. John Wiley & Sons.
2. Lathi, B.P. : Modern Analog and Digital Communication Systems. Oxford.