

Branch Name:	Information and Communication Technology
Semester/Year:	Semester IV / Second Year
Subject Title:	Analog and Digital Communication
Subject Code:	1ET1070403
Pre-requisite:	Basic Electronics, Signals and Communication

Course Objectives:

- To explain basics of analog and digital communication
- To explain analog and digital modulation schemes
- To explain analog and digital demodulation scheme
- To study analog and digital communication system

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
Lecture (L)	Tutorial (T)	Practical (P)	Credit	Theory (Marks)		Practical (Marks)		Total (Marks)
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
03	00	02	04	70	30	30	20	150

Subject Contents				
Sr. No	Topic	Total Hours	Weight (%)	
1	Types of Signals, Elements of Communication Systems, Sampling, Analog to Digital and Digital to Analog Converter, Shannon's Channel Capacity Theorem	10	20	
2	Analog base band, Discrete base band, PAM, TDM, ISI, PWM and PPM, PCM, M-ary base band, Receivers, Performances and applications	12	25	
3	Amplitude Modulation, Modulators, DeModulators, Performance and Design Considerations and applications	12	25	
4	Frequency Modulation, Modulators, Demodulators, Performance and applications	10	20	
5	Phase Modulation, Analog and digital phase modulation, Modulators, Demodulators, Performance and applications	08	10	

Course Outcome:

After learning the course, the students should be able to:

1. Understand difference between analog and digital communication
2. Understand various analog and digital modulation Techniques

3. Understand analog and digital demodulation techniques.

Text Book:

- (1) “Analog and Digital Communication System”, Martin S.Roden, SPD Publications
- (2) “Communications Systems: Analog and Digital”, R.P. Singh and S.D.Sapre, TMH

List of Suggested Practicals:

1. Study of Modulation and De Modulation
2. Study of Sampling and Reconstruction
3. Study of ASK
4. Study of FSK
5. Study of PSK
6. Study of QPSK
7. Study of BPSK
8. Study of QAM
9. Study of Digital Detection Techniques
10. Study of one Digital Communication System