III B.Tech – II Semester
(17EC611) DIGITAL COMMUNICATIONS LAB

Int. Marks	Ext. Marks	Total Marks	L	T	P	C
60	40	100	-	-	3	2

Pre-Requisites: Analog Communications

Course 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.

List of Experiments:

1. Time division multiplexing.
2. Pulse code modulation.
3. Differential pulse code modulation.
4. Delta modulation.
5. Frequency shift keying.
6. Phase shift keying.
7. Differential phase shift keying.
8. Companding
9. Source Encoder and Decoder
10. Linear Block Code-Encoder and Decoder 11lBinary Cyclic Code - Encoder and Decoder
11. Convolution Code - Encoder and Decoder

Equipment required for Laboratories:

1. RPS – 0 – 30 V
2. CRO – 0 – 20 M Hz.
3. Function Generators – 0 – 1 M Hz
4. RF Generators – 0 – 1000 M Hz./0 – 100 M Hz.
5. Multimeters
6. Lab Experimental kits for Digital Communication
7. Components

Course Outcomes:

After successful completion of the course, the students can be able to:

S. No	Course Outcome	BTL
1.	Understand basic theories of Digital communication system in practical	L1
2.	Design and implement different modulation and demodulation techniques	L2
3.	Analyze the performance of digital modulation techniques using hardware results	L2
4.	Implement different source coding techniques in modern digital communication techniques.	L2
5.	Perform channel coding.	L1
6.	Design techniques of source and channel coding.	L2

Correlation of COs with POs & PSOs:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO 1	3	2	1	-	-	-	-	-	1	-	-	-	3	2
CO 2	3	3	3	-	-	-	-	-	3	-	-	-	3	3
CO 3	2	1	2	-	-	-	-	-	2	-	-	-	2	1
CO 4	2	2	2	-	-	-	-	-	1	-	-	-	2	2
CO 5	2	3	3	-	-	-	-	-	2	-	-	-	2	3
CO 6	2	2	3	-	-	-	-	-	3	-	-	-	2	2