6	D Flip-Flop- IC 7474	CO4
7	Decade Counter- IC 7490	CO4
8	Universal shift register- IC 74194/195	CO4

Learning Resources
Text Books
1. Ramakanth A. Gayakwad, Op-Amps & Linear ICs, 4th Ed., PHI, 2010. 2. Floyd and Jain, Digital Fundamentals, 8th Ed., Pearson, 2005.
Reference Books
1. D. Roy Choudhury, Linear Integrated Circuits, New Age International, 2nd Ed., 2003. 2. John. F. Wakerly, Digital Design Principles and Practices, 3rd Ed., Pearson, 2009.
e- Resources & other digital material
1. https://www.youtube.com/watch?v=lpXNCwsnxjM&list=PLuv3GM6-gsE3npYPJJDnEF3pdiHZT6Kj3 2. https://www.youtube.com/watch?v=g6CCJAbdkK8&list=PLHO2NKv71TvsSqYwVvUCZwNkY-jUyUHdS

Analog and Digital Communication Lab

Course Code	23EC3552	**Year**	III	**Semester**	I
Course Category	PC	**Branch**	ECE	**Course Type**	Lab
Credits	1.5	**L-T-P**	0-0-3	**Prerequisites**	---
Continuous Internal Evaluation:	30	**Semester End Evaluation:**	70	**Total Marks:**	100

Course Outcomes		
Upon successful completion of the course, the student will be able to		BL
CO1	Analyze the parameters of Analog modulation Techniques	L4
CO2	Analyze the parameters of Pulse modulation Techniques	L4
CO3	Evaluate the performance baseband and Band pass modulation techniques.	L5
CO4	Analyze the performance of source coding and channel coding techniques.	L4

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of Correlations (3:High, 2:Medium, 1:Low)

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CO1	3	3			3				2			2	3	
CO2	3	3			3				2			2	3	
CO3	3	3	3		3				2			2	3	
CO4	3	3			3				2			2	3	
Average	3	3	3		3				2			2	3	

Note: All the below experiments are to be executed/completed using either hardware boards or MATLAB. Minimum of **Ten** Experiments has to be performed

Syllabus		
Expt. No.	**Contents**	**Mapped CO**
1	Amplitude Modulation and Demodulation	CO1
2	DSBSC modulation and Demodulation	CO1
3	Frequency modulation and Demodulation	CO1
4	Pre-emphasis and De-emphasis	CO1
5	PAM, PWM, PPM Signal Generation and Demodulation	CO2
6	Time Division Multiplexing	CO2
7	Verification of Sampling Theorem	CO2
8	Pulse code modulation	CO3
9	Delta modulation.	CO3
10	Phase shift keying.	CO3
11	Frequency shift keying.	CO3
12	Spread Spectrum modulation	CO3
13	Source Encoder and Decoder	CO4
14	Channel Encoder and Decoder	CO4
