5. Alan B. Marcovitz,"Introduction to Logic Design", 3rd Edition, McGraw-Hill

Course Code	Type	Subject	L	T	P	Credits	CA	MS	ES	CA	ES	Pre-requisites
CEC04	CC	Analog and Digital Communication	3	1	0	4	25	25	50	-	-	None

COURSE OUTCOMES

1. To gain an understanding of the scientific principles, working and applications of communication systems
2. To gain an understanding of modulation techniques
3. To acquire the skills needed to design communication systems for different applications

COURSE CONTENT

Representation of signals and systems: Fourier Series,Fourier transform and its properties, Hilbert transform, pre-envelope representation, representation of band pass signals**.**

Analog communication: Elements of communication, amplitude modulation & demodulation, DSB-SC Modulation & demodulation, SSB-SC Modulation & demodulation, frequency modulation (direct method only), NBFM, WBFM, frequency demodulation (balanced slope detector and phase discriminator).

Probability theory and random process: probability theory random variables and transformations random processes, mean, correlation, covariance, moments, power spectral density, Gaussian process, Stationarity, Central limit theorem.

Sampling and pulse communication: Sampling theorem , types of sampling, PAM , PPM, PWM.

Pulse code modulation: Quantization (linear & nonlinear), PCM, DPCM, DM.

Digital modulation techniques: Matched filters, Correlator receivers, Gram Schmidt

orthogonalization process, ASK, FSK, PSK, QPSK, Error analysis of BPSK, BFSK & QPSK.
SUGGESTED READINGS 1. Taub, "Principles of communication," McGrawHill

B.E. COMPUTER ENGINEERING-SEMESTER III												
Course Code	**Type**	**Subject**	**L**	**T**	**P**	**Credits**	**Evaluation Scheme (Percentage weights)**					**Pre-requisites**
							Theory			**Practical**		
							CA	**MS**	**ES**	**CA**	**ES**	
CEC05	**CC**	**Design and Analysis of Algorithms**	**3**	**0**	**2**	**4**	**15**	**15**	**40**	**15**	**15**	**None**

COURSE OUTCOMES

1. To be able to analyze a problem in terms of processing steps, time and space complexity.
2. To be able to design and implement the algorithms for any given application.
3. To be able to develop software applications using various programming languages in collaborative groups.
4. To apply the principles learnt in solving problems encountered in career or real life situations.

CONTENTS

Introduction: Algorithm Design paradigms- motivation, concept of algorithmic efficiency, run time analysis of algorithms, Asymptotic behavior of algorithms, Asymptotic Notations, Recurrence relation,

Algorithm approaches: Divide-and-conquer Approach: Strassen's matrix multiplication,