UNIT No	Topics covered
UNIT-I	**Signals and Systems:** Linear Algebra, Calculus, Differential Equations, Complex variables, Continuous and Discrete Time Systems, z-transforms, Continuous and Discrete time Fourier transforms, Continuous and Discrete time Fourier series, Random signal and noise.
UNIT-II	**Analog and Digital Electronics:** Diode Circuits, Basic BJT and FET circuits, Amplifiers, Op Amps, Integrated Circuits, Number System and Boolean Algebra, Combinational Logic Circuits, Sequential Circuits, Digital Systems.
UNIT-III	**Network Theory and Control System:** Circuit Theorems, RLC circuits, Solution of network equations using Laplace transform, Two port networks, Frequency response, Transfer functions, Stability, Time response, Frequency domain analysis, LTI control systems.
UNIT-IV	**Micro controllers and Embedded system:** Architecture of Micro controller, Memory organization, Interrupt structures for PIC microchip16F, 18F series.
UNIT-V	**Analog and Digital Communication:** Analog communication systems: amplitude and angle modulation and demodulation systems, spectral analysis of these operations, Fundamentals of AM/FM/PM, Digital communication systems: pulse code modulation (PCM), differential pulse code modulation (DPCM), digital modulation schemes: amplitude, phase and frequency shift keying schemes (ASK, PSK, FSK), Basics of TDMA, FDMA and CDMA and GSM.

Text Books/References:

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2.	John G Proakis and Dimitris. G. Manolakis, Digital Signal Processing, Prentice Hall of India, 1997
3.	Duda R.O. and Hart P.E., John, Pattern Classification and Scene Analysis, Wiley Interscience, 1973.
4.	R.C. Gonzalez and P. Wintz, Digital Image Processing, Addison Wesley, 2nd Ed, 1987
5.	Rosenfeld and A. C. Kak, Digital Image Processing Academic Press, Vol-1, 1982.
6.	Douglass BP, Real time UML: Developing Efficient Objects for Embedded Systems, Addison Wesley, 2000
7.	A.S. Taanenbaum, Computer Networks, PHI/PEA, 4th Ed, 2003
8.	Douglas Comer, DL Stevens, Internetworking with TCP/IP, Vol III, PEA, 2ndd Ed, 1996 .
9.	Garg V, Joseph E. Wilkes, Wireless & Personal Communication Systems, Feher/Prentice
10.	R. S. Khandpur, Handbook of Biomedical Instrumentation, McGraw Hills.
11.	Timothy J Ross, Fuzzy logic with Engineering Applications, McGraw Hills, 1997.
12.	Mehrotra, Mohan, Ranka, Elements of Artificial Neural Networks, MIT Press, 1997.
13.	Munakata, Fundamentals of New Artificial Intelligence, Springer Verlag, 1998
14.	F.O Karray, CW DeSilva, Soft Computing & Intelligent Systems, Addison Wesley, 2005

15.	D. L. Perry, 'VHDL', Mc Graw Hill Inc., 1998.
16.	Frank Vahid and Tony Givargis, "Embedded system design: unified hardware/software introduction", John Wiley & Sons, 2002.
17.	Neil Weste, David Harris, "CMOS VLSI Design: A circuit and system perspective," 4th edition, Person Publication.
18.	Myer Kutz, "Standard Handbook of Biomedical Engineering Design", MGH.
19.	Webster, "Encyclopedia of Medical Devices and Instrumentation", Wiley Interscience
20.	Andrew Sloss, Dominic Symes, Chris Wright, " ARM system developer's guide ng and Optimizing System software, Morgan Kaufmann Publishers, 2010.
21.	Robert Ashby, "Designers guide to Cypress PSoC", Elsevier Publications.
22.	Kaushik Roy, Sharat Prasad, Low Power CMOS VLSI Design., John Wiley and Sons.
23.	Aswin Sreedhar, Sandip Kundu, Nanoscale CMOS VLSI Circuits Design for Manufacturability , MGH.
24.	Erwin Kreyszig, Advanced Engineering Mathematics, Laurie Rosatone
25.	Vijay Garg, Wireless communication and networking, Morgan Caufmann
26.	William Stallings, Wireless Communications and Networks, PHI
27.	B. V. Ramna, Higher Engineering, Tata McGraw Hills

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