



sasi INSTITUTE OF
TECHNOLOGY &
ENGINEERING

Department of Electronics & Communication Engineering

Accredited by **NBA & NAAC** with **"A" Grade**
Recognised by **UGC** under sections 2(f) & 12(B)
Approved by **AICTE** - New Delhi
Permanently Affiliated to **JNTUK, SBTET**
Ranked as **"A" Grade** by Govt. of A P

**Department of Electronics and Communication Engineering
Simulation Laboratory**

Description:

- This Laboratory enables II year II Semester, III year I Semester, III year II Semester IV year I Semester ECE students to perform the various experiments in the area of Analog Communication, Electronic Circuit Analysis, Digital System Design & Digital IC Circuits, Digital Signal Processing as well as VLSI.
- Major facilities/equipments: Dell Optiplex 755N Series Systems connected through Virtualization.

Faculty In-Charge	:Mr.P.Siva Durga Rao
Technician	:Mr.S.S.S.R.K.V.Prasad
Area	:96.02 Sq.m
Total Investment	:Rs. 43,58,625.17
No. of experiments	: Analog Communications Laboratory (14) Electronic Circuit Analysis Laboratory (14) Digital System Design & Digital IC Circuits Laboratory (13) Digital Signal Processing Laboratory (13) VLSI Laboratory (12)
Courses conducted	: Analog Communication, Electronic Circuit Analysis, Digital System Design & Digital IC Circuits, Digital Signal Processing, VLSI.
Exclusive / Shared	: Exclusive

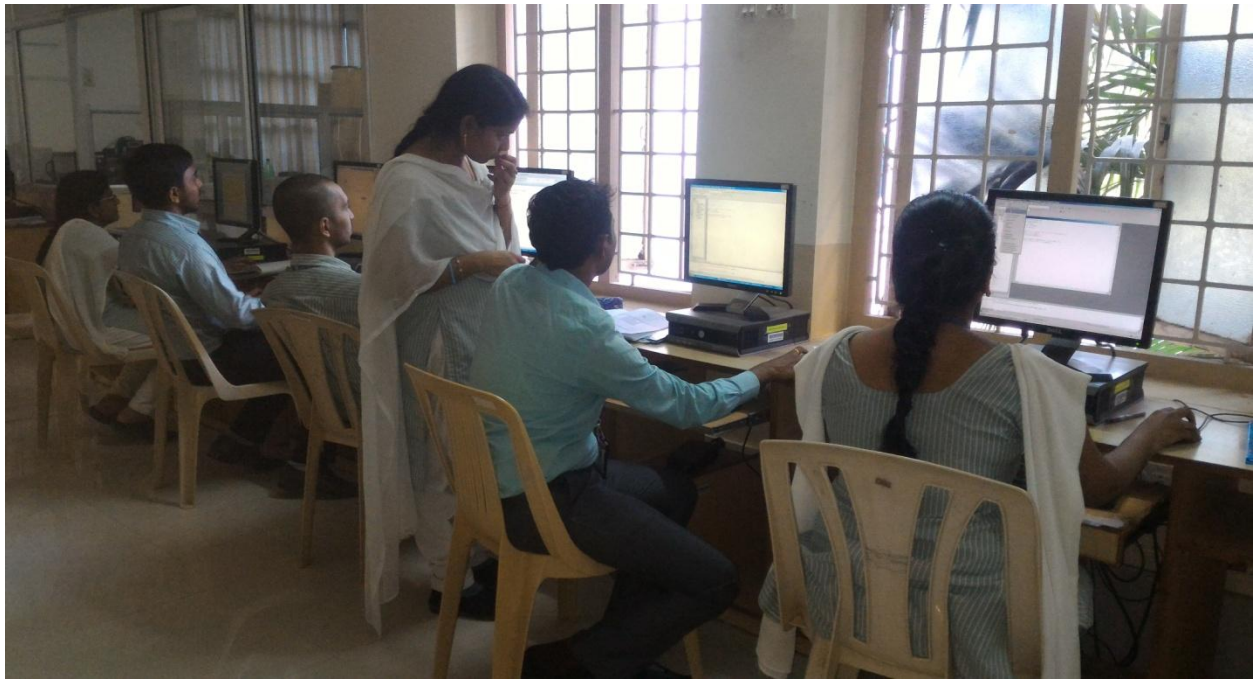


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Simulation Laboratory





List of Equipment Simulation Laboratory

S.NO.	Name of the Equipment	Quantity
1	TMS320C6713 WITH CCS	15
2	TMS320C5416 WITH CCS	02
3	Universal VLSI Development Boards (Model: TK-Base) With SMPS	12
4	Interfacing Modules(Model:8bit DAC)	01
5	Interfacing Modules(Model: Stepper Motor)	01
6	Interfacing Modules(Model: Elevator)	01
7	Logic Analyzer & Pattern Generator(Model: Lg 3.2c)	01
8	Xilinx ISE S/W(Model: VHDL S/W)	01
9	SPARTAN 3E FPGA STARTER KIT	04
10	XUP VIRTEX 5 OPEN SPARC BOARDS	02
11	XILINX ISE SYSTEM EDITION	01
12	HEP Category 1 & Category 2	01
13	Dell Optiplex 755n Ultra SFF	43
14	Multisim Software(simulation & capture) version-8, unlimited users	01
15	SATA HDD Casing	01
16	Computer Application Software License No: 896598	
	1)MATLAB	50
	2) Signal Processing Toolbox	03
	3) DSP System Toolbox	02
	4) Simulink	15
	5) Communications System Toolbox	02
	6) Simscape	02
	7) SimElectronics	02
	8) Image Processing Toolbox	02
	9) Computer Vision System Toolbox	02
	10) Control System Toolbox	02
	11) Fuzzy Logic Toolbox	02
	12) Statistics Toolbox	02
	13) Curve Fitting Toolbox	02
	14) Optimization Toolbox	02
	15) SimHydraulics	02
	16) SimMechanics	02
	17) SimPower Systems	02
	18) SimDrive Line	01
19) Stateflow	01	
17	HEP Category 1 & Category 2	01
18	MS DreamSpark PREM 1yr ae new pkc Microcase Online Edition	01
19	Ahuja Megaphone	01
20	Microsoft Imagine / DreamSpark Prem 1 Year New	01



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Department of Electronics and Communication Engineering
Electronic Circuit Analysis Laboratory

List of Experiments as per Syllabus

S.No	Name of the Experiment
1.	Determination of f_T of a given transistor.
2.	Voltage-Series Feedback Amplifier
3.	Current-Shunt Feedback Amplifier
4.	RC Phase Shift/Wien Bridge Oscillator
5.	Hartley/Colpitt's Oscillator
6.	Two Stage RC Coupled Amplifier
7.	Darlington Pair Amplifier
8.	Bootstrapped Emitter Follower
9.	Class A Series-fed Power Amplifier
10.	Single Tuned Voltage Amplifier

List of Experiments beyond Syllabus

S.No	Name of the Experiment
1.	Class B Push-Pull Power Amplifier
2.	Complementary Symmetry Class B Push-Pull Power Amplifier
3.	Double Tuned Voltage Amplifier
4.	Transformer-coupled Class A Power Amplifier



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Department of Electronics and Communication Engineering
Analog Communication Laboratory

List of Experiments as per Syllabus

S.No	Name of the Experiment
1.	Amplitude Modulation & Demodulation
2.	DSB SC - Modulation & Demodulation
3.	Diode Detector Characteristics
4.	Pre-emphasis & De-emphasis
5.	Frequency Modulation & Demodulation
6.	Sampling Theorem Verification
7.	Pulse Amplitude Modulation & Demodulation
8.	PWM, PPM Modulation & Demodulation
9.	PLL
10.	AGC characteristics
11.	Spectrum Analyzer
12.	Radio receiver characteristics

List of Experiments beyond Syllabus

S.No	Name of the Experiment
1.	SSB modulation & demodulation
2.	Frequency division Multiplexing & Demultiplexing



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Department of Electronics and Communication Engineering
Digital System Design & DICA Laboratory

List of Experiments as per Syllabus

S.No	Name of the Experiment
1.	Realization of logic gates
2.	3-to-8 Decoder – IC 74LS138
3.	8*1 Multiplexer-IC 74LS151 and 2*1 De-multiplexer- IC 74LS155
4.	4-Bit Comparator-IC 74LS85
5.	D Flip-Flop- IC 74LS74
6.	Decade Counter- IC 74LS90
7.	4-Bit Counter- IC 74LS93
8.	Shift Register- IC 74LS95
9.	Universal shift register- IC 74LS194/195
10.	RAM (16*4)- IC 74LS189 (read and write operations)
11.	Arithmetic Logic Unit (ALU) – IC 74LS381

List of Experiments beyond Syllabus

S.No	Name of the Experiment
1.	Sequence Detector
2.	Type conversion using functions & procedures



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Digital Signal Processing Laboratory

List of Experiments as per Syllabus

S.No	Name of the Experiment
1.	To study the architecture of DSP chips - TMS 320C 5X/6X Instructions.
2.	MATLAB program to generate sum of sinusoidal signals.
3.	MATLAB program to find frequency response of Analog LP/HP filters.
4.	To verify linear convolution.
5.	To verify the circular convolution.
6.	To find the FFT of given 1-D signal and plot.
7.	N-point FFT algorithm.
8.	To compute power density spectrum of a sequence.
9.	To Implement IIR filter (LP/HP)
10.	To design FIR filter (LP/HP) using MATLAB
11.	To design FIR filter (LP/HP) using CCSTUDIO

List of Experiments beyond Syllabus

S.No	Name of the Experiment
1.	To Verify Down sampling and Up sampling using Mat Lab
2.	Sampling and Reconstruction of a signal



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Department of Electronics and Communication Engineering
VLSI Laboratory

List of Experiments as per Syllabus

S.No	Name of the Experiment
1.	Design and implementation of an Inverter
2.	Design and implementation of universal gates
3.	Design and implementation of full adder
4.	Design and implementation of RS-latch
5.	Design and implementation of D-latch
6.	Design and implementation Asynchronous counter
7.	Design and Implementation of Static RAM cell
8.	Design and implementation of full Subtractor
9.	Design and Implementation of differential amplifier
10.	Design and Implementation of ring oscillator

List of Experiments beyond Syllabus

S.No	Name of the Experiment
1.	Design and Implementation of Dynamic RAM cell.
2.	Design and Implementation of 2×1 Multiplexer.