G. Narayanamma Institute of Technology and Science

(*For Women*)

(AUTONOMOUS)

Department of ECE

Signal Processing & Communication Lab

About the lab

This lab is designed to facilitate practical learning in Digital Signal Processing (DSP) for 3rd year B.Tech students and Advanced Wireless Communication for M.Tech students. With an area of the laboratory spread over 80 Sq.mts, a strength of 24 students can be comfortably accommodated in the lab. The center is equipped with essential tools and resources, including 27 computer systems loaded with MATLAB and Code Composer Studio softwares, 10 Oscilloscopes, 10 Function generators, TMS320C6748 DSP starter kits, and various kits for performing Advanced communication-related experiments. The total cost of the equipment in this center is Rs. 31,62,183/-. This setup makes sure that students can do experiments and learn practical skills in Digital Signal Processing and Communications.

Faculty associated with Signal Processing & Communication Lab

S. No	Name of the faculty	Designation	Area of research
1	B.Tulasi Sowjanya	Asst.Prof	Signal Processing and Communication (Information theory)
2	Dr.P.Chandra Sekhar	Asst.Prof	Speech Processing
3	Dr.C.Padmaja	Asst.Prof	Wireless Communications
4	M.Madhuri Latha	Asst.Prof	Signal Processing and Communication
5	Poorna Chandra Reddy	Asst. Prof.	Communications
6	G Karuna	Lab Asst.	-

Facilities

The Signal Processing and Communication lab is equipped with the following software and hardware. These facilities allow students/ faculty to work in the area of signal processing and communication.

Software:

1. MATLAB

Hardware /Kits:

S. No	Name of the Equipment	Quantity
1.	Computer Systems	27
2	TMS 320C6748 DSP Starter kit with Code Composer Studio (CCS-SW)	6
3	30MHz Oscilloscopes	7
4	3MHz AM/FM Function Generators	4
5	3MHz Function Generators	3
6	Digital Oscilloscopes	3
7	10 MHz Function generators	3
8	Understanding Dual Sim Mobile Phone 1218198, Model: 2132A (PG Kit)	1
9	Understanding 3G Communication System, Model: 2138A (PG Kit)	1
10	Understanding CDMA_DSSS Communication System with BRR Model: 2131B (PG Kit)	1
11	Software Defined Radio Receiver Model: C700 (PG Kit)	1

Photos

Digital Signal Processing Lab

Advanced Wireless Communication Lab

Faculty as Reviewers and Editorial board members

S.No	Name of the faculty	Nature of contribution	Details of associated Organization / Journal / Conference etc.
1	B.Tulasi Sowjanya	Reviewer	SPCOM 2018 International Conference on Signal Processing and Communications – 2018
		Reviewer	NCC 2018 National Conference on Communications 2018
2	Dr. C. Padmaja	Reviewer for IEEE Sensor Council U.P. Chapter	Motilal Nehru National Institute of Technology Allahabad Prayagraj, India organized by MAC2023 24th -26th March 2023
		Reviewer	IEEE MTT / AP Society Bangalore JT Chapter MAPCON December 12th -15th 2022
3	Dr. P. Chandrasekhar	Reviewer	Reviewed the revision of JASA-06243R1, "Long-term scalogram integrated with an iterative data augmentation scheme for acoustic scene classification," The Journal of the Acoustical Society of America, Apr 30, 2021.

Details of Faculty Professional Body Memberships

S.No	Name of the Faculty	Membership No.		
		IEEE	ISTE	IETE
1	B.Tulasi Sowjanya	96946794		
2	Dr.P.Chandra Sekhar			F-503898
3	Dr.C.Padmaja	96774681	LM 123287	F-502931
4	M.Madhuri Latha	96352158		
5	Poorna Chandra Reddy			

Academic projects carried out by Student Projects

Roll Number	Name of the Student	Title of the Project	Internal Guide
19251A04G8	Seella Upasana	**Major project** Analysis of ECG signals using Machine Learning and Deep Learning Techniques	Mr.P.Satyannaraya Goud
19251A04C6	Baddala Kundana		
19251A04C7	Battula Meghana		
19251A04H1	Shikari Vaishnavi		
19251A04E1	Katakam Mahima Sri	**Major project** Detection of Glaucoma In Retail Image	Mrs.P.Roopa Ranjani
19251A04D6	Jahnavi M		
19251A04H0	Shanigarapu Sneha		
19251A0460	V Namitha Patel	**Mini project** Super resolution of images using deep learning	Mrs P.Sri Padma
19251A0408	Boyalla Jahnavi		
19251A0420	Jarupula Vidya		
19251A0414	Esa Sai Sindhu		
20251A0496	C. Bhavitha Reddy	**Mini project** AI based system for Rotten fruit classification and regression	B.Tulasi Sowjanya
20251A04A7	M. Hamsika		
20251A0470	K.Radha MAdhavi		
20251A0499	G.Sindhuja		
20251DB107 M.TECH II Year DECE	Kurra Pallavi	**Major project** Underwater Data Transmission Model Using Li-Fi Technology	Dr C.Padmaja
16251D3807 M.TECH II Year DECE	G.Keerthi	**Major project** Improving Channel Estimation Quality Using Semiblind Approach.	Dr C.Padmaja
18251A0415	M Guna sree	Smart and safe child rescue system from borewells	Dr. P. Chandrasekhar
18251A0423	Neharika santi		
18251A0430	Vinathi Ganji		
18251A0447	Male Bhavayanajali		

Outcomes of the Student's Academic Projects

S.No.	Title of the Paper	Name of the Conference / Journal	Year	Status of the Paper
1.	Glaucoma Detection in Retail Image	International Journal of Advanced Research in Computer and Communication	2023	Published
2	AI based system for Rotten fruit classification and Segregation	International Journal of Emerging Trends in Engineering research	2023	Published