



VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

TECHINNOVATION

NEWS LETTER

APR - JUN, 2019

DEPT. OF ECE

VOLUME NO.: 12

ECE Department

Department of Electronics and Communication Engineering was started since the inception of Vignan's Institute of Management and Technology for Women during 2008 with an initial intake of 90. The strength was enhanced to 120 during 2010. The Department had added Post graduate programme in VLSI during the year 2011 and Embedded Systems during 2014 with an intake of 18 each.

The Department has state-of-art laboratories equipped with advanced and well maintained equipment, continuously updated application software packages, more than adequate computing systems with 24x7, 30 MBPS internet facility.

Department Vision

To transform the students into technologically competent professionals, with abilities to address the societal challenges of the time through innovative technical practices in electronics & communication engineering.

Department Mission

- M1: To foster inquisitive-driven advanced knowledge building among students for reinforcing the domain knowledge, develop capabilities, skills and solve complex engineering problems.
- M2: To prepare industry-ready graduates for global Electronics as well as communication-based engineering companies by conducting training programs, workshops and industry visits.
- M3: To build entrepreneurship and leadership qualities, research aptitude among students for the contribution of economic and technological development in cutting edge technologies in the national and as well as in the global arena.

Program Educational Objectives

- PEO1: To develop the student's ability on technical concepts to design, simulate, and synthesize various electronic and communication circuits & systems for their research advancements.
- PEO2: To impart analytical skills and to prepare the students to excel in applying state-of-the-art hardware and software tools to solve complex engineering problems for R&D, Industry, and societal requirements.
- PEO3: To prepare the students to work in teams, take independent decisions, and integrate engineering issues for a successful career in a multi-disciplinary environment.
- PEO4: To promote entrepreneurship among the students to become successful entrepreneurs with professional ethics.

Program Educational Objectives

A graduate of the Electronics and Communication Engineering Program will be able to

Professional Skills Ability: Identify, design electronics & communication circuits and conduct experiments with electronics & communication systems, analyze and interpret data, formulate and solve electronics & communication engineering problems.

Industrial Skills Ability: Design digital and analog systems, algorithms, fire ware, modern engineering tools, software, etc. as per needs and specifications and work in laboratory and multidisciplinary tasks.

Ethical and Social Responsibility: Communicate effectively in both verbal and written form, will have knowledge of professional and ethical responsibilities and will show an understanding of the impact of engineering solutions on the society, and also will be aware of contemporary issues.

Program Outcomes (Adapted from NBA)

Engineering Graduates will be able to:

Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

Problem Analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

Design/Development of Solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

Conduct Investigations of Complex Problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

Modern Tool Usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

The Engineer and Society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

Environment and Sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

Project Management and Finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

Life-long Learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

INTERNATIONAL YOGA DAY CELEBRATIONS

The INTERNATIONAL YOGA DAY was celebrated on June 21st 2019 at VMTW with great enthusiasm by the students – and proceedings have begun at 8:30 am with the lighting of the lamp by principal Dr. P. SUDHAKAR RAO, HOD, S. Mrs. NARMADHA, Mrs. GOWTHAMI LATHA, T. SRINIVASULU, L. KIRAN KUMAR. The special faculty for yoga pointed out the importance of yoga in order to remain physically fit and mentally alert.



TRADITIONAL DAY CELEBRATIONS

The Traditional day celebrations held on 4th June 2019 at Vignan Institute Of Management And Technology For Women. Students celebrate the Traditional Day to promote “Unity in diversity” which is based on the concept where the individual or social differences in physical attributes, skin color, castes, creed, cultural and religious practices, etc.



ONE DAY WORKSHOP ON DIGITAL IMAGE PROCESSING USING MATLAB

One day workshop was arranged on 27th March 2019 on Digital IMAGE PROCESSING Using Mat Lab for Future Smiles college-going beneficiaries. Was invited Dr Raj Kumari as speaker. The programme concluded with the following few lines by the co-ordinator Mrs. UDAYA SRI in her vote of thanks.



PLANTATION PROGRAMME

The plantation program was celebrated on June 14th 2019 at VMTW with great enthusiasm by the students - The proceedings began at 8:30 am with the lighting of the lamp by principal Dr. P. SUDHAKAR RAO, The special faculty for plantation program pointed out the importance of plantation.



FACULTY ACHIEVEMENTS



FACULTY ARTICLE

The article “**AUTOMATIC TOLLGATE COLLECTING SYSTEM**” is written by Ms. M. HEMALATHA, as a Assistant Professor.

ABSTRACT: Now a day there is a huge rush in the toll plazas in order to pay the toll tax.

Therefore in order to reduce the traffic jam and to save time, & also to reduce the money Loss of 300 cores / year. We have designed project for the automation in toll tax payment

Using RFID. We have made the automation of toll plaza using combination of microcontroller, RFID and Load cell technology. This report explains the implantation of automation in toll plaza

Which is a step towards improving the monitoring of vehicles, travelling in predetermine routes. The aim of our project is to design a system, which automatically identifies an approaching vehicles and record vehicles number and time.

CONCLUSION: The Electronic Toll Collection system in expressway based on RFID, a design scheme was put forward. It is low cost, high security, far communication and efficiency, etc. It not improve the passage ability of expressway but also improve the technology level of charge. Electronic toll collection system using RFID is an effective measure to reduce management costs and fees, at the same time, greatly reduce noise and pollutant emission of toll station.

FACULTY DEVELOPMENT PROGRAMME

Mr. J. SUNIL KUMAR, Assistant Professor has successfully participated in three day Faculty Development Programme in “ANALOG IC DESIGN -HANDS ON PRACTICE USING CADANCE” held at JNTUH UIIC, TEQIP during 22th to 24th April, 2019.

NPTEL COURSES

Mr. P. Hari Krishna successfully completed. The course on 'BIO MEDICAL SIGNAL PROCESSING' for duration of 12 weeks Jan-April, 19.

PUBLICATIONS

Mr. E. NAGARAJU, Assistant Professor, presented a paper in the International Journal of Management, Technology and Engineering on “An efficient comprehensive survey on Advanced algorithms for VLSI 3D Partitioning physical design automation” in 2019” with ISSN: 2249-7455.

Mr. G. GANESH REDDY, Assistant Professor, presented a paper in the International Journal of Management, Technology And Engineering on “IoT Based Real-Time Digital Led Notification Display Board using Node MCU via Telegram Messenger App “ in 2019 with ISSN:2395-3187



FACULTY ARTICLE

The article “**A NOVEL APPROACH TO DESIGN AND IMPLEMENTATION OF N- BIT LFSR**” is written by Mr. E. NAGARAJU, as a Assistant Professor.

ABSTRACT: As the CMOS technology is scaling down, leakage power has become one of the most critical design concerns for the chip designer. This paper proposes a low leakage linear feedback shift register that can be used in a crypto-processor. In this work, three-bit, four-bit, and five-bit linear feedback shift registers are implemented in 90nm and 65nm technology.

CONCLUSION: In this paper CMOS implementation of LFSRs using pass transistors and XOR gate are presented. In this work the analysis of leakage power of LFSRs are carried out in 90 nm and 65 nm technologies using two reduction techniques RBB and transistor stack.. The reduction is high in the case of 4-bit LFSR with 31.04% and 30.43% in 90nm and 65nm respectively with RBB+stack method. With RBB technique alone, the percentage leakage reduction is more in 90nm (16.45% in 3-bit LFSR circuit) and it increases to 28.62% for the combined RBB and stack approach. Hence the proposed combined RBB+Stack approach can be used for the design of low leakage LFSR for use in cryptograph.

STUDENT ACHIEVEMENTS

TECHNICAL EVENTS

S.NO.	NAME OF THE STUDENT	ROLL NUMBER	BRANCH	ACADEMIC YEAR	EVENT	HOST
1.	G RAVALI	16UP1A0463	III ECE	2019-20	TECHNICAL	GNIT
2.	VEERAMALLA PRATHYUSHA	17UP1A04A0	II ECE	2019-20	TECHNICAL	GNIT



STUDENT ARTICLE

The Article “**AN ULTRA-WIDEBAND VIVALDI ANTENNA SYSTEM FOR LONG - DISTANCE ELECTROMAGNETIC DETECTION**” is Written By CHEERLA SWARNALATHA, Roll Num: 16UP1A0459

ABSTRACT: Enlarging or reducing the antenna beam width of antennas can improve the positioning capability of detection systems. A miniaturized and easily fabricated ultra-wideband (UWB) antenna system for long-distance electromagnetic detection is proposed in this article. Two ultra-wideband Vivaldi antennae were designed. One was the transmitting antenna with a beam width of 90° or above, the other was a narrow beam antenna array with beam width less than 10° , as a receiving antenna.

Both proposed antennae feature broadside gain diagrams with stable radiation patterns and wideband impedance matching in the frequency range between 2.5 GHz and 4 GHz. After detecting their frequency and time-domain behaviors, the detection system can achieve measurements covering a radius of 30 m.

Keywords: Vivaldi antennas; wideband antennas; electromagnetic detection

CAMPUS RECRUITMENT

S.NO.	COMPANY'S NAME	ON/OFF CAMPUS	BRANCH	OFFERS	PACKAGE	ROLE
1.	ACCENTURE	ON	ECE	26	4.5 LPA	SOFTWARE DEVELOPER
2.	MINDTREE	ON	ECE	6	4.0 LPA	SOFTWARE DEVELOPER
3.	WIPRO	ON	ECE	49	3.5 LPA	PRODUCTION ENGINEER

