VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

TECHINNOVATION

NEWS LETTER

JUL - SEP, 2021 | DEPT. OF ECE | VOLUME NO.: 21

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.

HOD'S MESSAGE

MR. P. HARIKRISHNA,
ASSOCIATE PROFESSOR &
HEAD OF THE DEPARTEMENT,
DEPARTMENT OF ELECTRONICS
AND COMMUNICATION
ENGINEERING.

It gives me great pleasure to congratulate students, teachers and Staff of electronics department. During study at The department, the students are encouraged to Get hands-on experience in the corporate world Through internship projects with reputed organizations. Newsletter is believed to be a Focus of the inside activities i.e. academics, students and Faculty achievement as well as Innovation occurring in the department.

QUIZ

A ONLINE QUIZ CONDUCTED TO THE STUDENTS OF VMTW ON EMBEDDED SYSTEM ON JULY 24TH - 2021

In this contest participants test what they know by answering questions on one or more topics Like emdedded systems language offers various features and functionalities. It has various important topics which you known must to improve coding skills. To help students to get better at embedded systems.

PLACEMENT SUCCESS MEET

FACULTY ARTICLE

The article **"IOT BASED GARBAGE MONITORING USING ARDUINO"** is written by Mrs. G. SUSMITHA, as a Assistant Professor.

ABSTRACT: We are living in an age where tasks and systems are fusing together with the power of IOT to Have a more efficient system of working and to execute jobs quickly! With all the power at our Finger tips this is what we have come up with. The Internet of Things (IOT) shall be able to Incorporate transparently and seamlessly a large number of different systems, while providing Data for millions of people to use and capitalize. Building a general architecture for the IOT is Hence a very complex task, mainly because of the extremely large variety of devices, link layer Technologies, and services that may be involved in such a system.

CONCLUSION: We built an efficient garbage monitoring system which can be used to monitor the level of Garbage in the dump. This data can be further used to plan garbage collection trips more Efficiently, ultimately reducing overflowing bins and helping have better public sanitation.

FACULTY PUBLICATIONS (2021-22)

S.NO.	AUTHOR(S)	JOURNAL NAME	TITLE OF THE PAPER	ISSN NUMBER
1.	MR. J. SUNIL KUMAR MR. VIJAYKUMAR R. URKUDE	TURKISH ONLINE JOURNAL OF QUALITATIVE INQUIRY	LOW POWER HIGH SPEED GDI 4-BIT RCA CIRCUIT DESIGN USING 45NM CMOS TECHNOLOGY	ISSN: 1309-6591
2.	MR. J. SUNIL KUMAR	INTERNATIONAL JOURNAL OF RESEARCH AND ANALYTICAL REVIEWS	GDI IMPLEMENTATION OF LOW POWER MODIFIED BOOTH MULTIPLIER	E-ISSN 2348-1269, P- ISSN 2349-5138

MOU'S

S.NO.	TRAINING AND PLACEMENT	INTERNSHIP	STUDENT EXCHANGE	FACULTY EXCHANGE	DURATION
1.	SIX PHRASE	CALYXPOD	TECHONA ENTERPRISES	BRAIN O VISION SOLUTIONS	1 YEAR
2.	KODNEST	TECHONA ENTERPRISES	BRAIN O VISION SOLUTIONS		1 YEAR
3.	EDIFY PATH	BRAIN O VISION SOLUTIONS			1 YEAR

STUDENT ARTICLE

The Article **"ANTI-THEFT VEHICLE SECURITY SYSTEM"** is Written By N VARSHITHA, Roll Num: 18UP1A0482.

ABSTRACT: This paper proposes an Anti-theft vehicle security system which aims to allow access to the car only if the person's fingerprint matches with that stored in the system the comparison will take place in Matlab and result will be shown on the LCD. In case through illegal means the car is accessed then car's fuel tank will be locked through Relay circuit so that whenever the tank gets empty, unauthorized person will no longer be able to refuel the tank.

CONCLUSION: Antitheft Vehicle Security System is the total protection to vehicle and fleet management solution. By using the GPS and GSM technology we can protect and monitor car, truck, Bike (or movable asset). We are using GSM technology because the extensive availability of GSM network in India and its roaming facility ensure that vehicle can be tracked even on the national highways and in many remote areas.

STUDENT ARTICLE

The Article **"CONTEMPORARY GPS SECURITY MECHANISMS"** is Written By P. HARINI, Roll Num: 18UP1A0491.

ABSTRACT: GPS (Global Positioning System) plays a big role in day to day activities. From navigation to tracking devices, all are dependent on GPS. As the attacks on GPS have increased so the review of GPS security plays a vital role in research. This paper looks at different spoofing generation methods. The idea is to discuss the single antenna, multiple antenna and other factors that are susceptible to interference. Based on the type of vulnerability the solutions are described in detail. This paper focusses on the current anti-jamming and anti-spoofing GPS mechanisms. This paper presents a comprehensive analysis of all the techniques along with the pros and cons of each method.

CONCLUSION: From the analysis it is clear that the better solution is the one which is robust, scalable, cost effective, and can intelligently handle interference of any kind. Relying on external factors and devices should be avoided for better and accurate results. All the updates should be over the air (OTA) to avoid future overheads. The combination of anti-jamming and anti-spoofing solution which is accurate, integrated as software avoids any kind of complexity and is practically feasible. Even though this paper summarizes GPS attacks and its countermeasures still there is a long way to go.

STUDENT AWARD CERTIFICATES

INTERNSHIP CERTIFICATES

Editorial: **Dr. G. Apparao Naidu,** Principal, **Mr. P. Harikrishna,** HOD, ECE., **Mrs. V. Suzan Shalini,** Asst. Professor, BS&H, **Ms. M. Hemalatha,** Asst. Professor, ECE.

Contact Details: Kondapur (V), Ghatkesar (M), Medchal - Malkajgiri (D) - 501 301
Phone: +91 96529 10002, 96529 10003, Email: info@vmtw.in, www.vmtw.in