PARIYADARSHINI ENGINEERING COLLEGE

VANIYAMBADI-635751

Department of ECE

TECHNICAL MAGAZINE

ECCLESIAJUNE – 2014

PERSEVERANCE, ENDURANCE, COMMITMENT

"கற்றலும், கற்றவை கேட்டலும், கேட்டதன்கண் நிற்றலும்"

ABOUT THE COLLEGE

Moved by the sad plight of affairs which was prevailing among the rural based population of Vaniyambadiand nearby Village who were quite unaware of the technological explosion that was taking place in India, thephilanthropist of Vaniyambadi and nearby villages came together and established Jai Barath Charitable Trustin the year 1994 and started Pariyadarshini Engineering College in the year 1995 under its banner with theirsumptuous contributions.

With the sole aim that the accomplishment of the Vision and Mission of the Trust does not get shattered,the matter was referred to the Honorable High Court of Madras for scheming. The Honorable High Court ofMadras appointed Retired Justice V.Rengasamy as the Receiver of the Trust in the year 2004 whichappointment was confirmed by the Honorable Supreme Court of India, New Delhi. Right from that time Honorable Justice V.Rengasamy with his efficient leadership, guidance and impeccable integrity isadministering Pariyadarshini Engineering College faithfully following the Vision and Mission of Jai BarathCharitable Trust in letter and spirit and has raised the college to greater heights.

Mission He took initiative to establish palatial buildings and labs in the college. He made it a point to fully equipthe labs with the necessary software and our labs are deficient free as per the AICTE and Anna Universitynorms. He introduced B.E (Civil) in Undergraduate Course and M.E (Power Systems) and M.E (EngineeringDesigns) in Postgraduate course. He continues to administer the institution with full zeal and zest till date.

VISION OF THE COLLEGE

To Inculcate In the Young Rural Minds the Aptitude to Compete With the Quality Technocrats

MISSION OF THE COLLEGE

- To instill technical skills to compete for a sustainable world
- To impart holistic value based technical education
- To intensify international research and development (R & D) cooperation in technological development
- To imbibe core values of love for motherland, performance of duty, compassion, tolerance, honesty and integrity

ABOUT THE DEPARTMENT

The Department of Electronics and Communication Engineering was started in PEC in the year 1995 with the intake of 60 students with the objective of imparting quality education in the field of Electronics and Communication and the intake was increased to 120 in the year 2013. The department started M.E Communication System in the year 2014 with an intake of 24 students. At present, the department is offering an undergraduate course in Electronics and Communication Engineering and one post graduate course in Communication Systems. The department has well-equipped laboratories with the facility of working in various areas like Integrated circuits, Microprocessor and Microcontrollers with interfaces, Microwave and optical communication, Digital signal processing and VLSI etc. The department has dynamic and committed faculty members who have published and presented papers in various Journals, National and international conferences in the area of speech processing, image processing, wireless communication networks and neural networks. Original MATLAB 7.0 with signal processing tool box, ORCAD PSPICE 10.1 version, XILINX 9.1 version is added to the department to bring multi faceted knowledge among students

in the ECE discipline. The department in association with student professional bodies like ISTE, ICTACT has organized several workshops, conferences and other technical events.

The ultimate aim of the department is to foster the technical skills in the field of Electronics and Communication that will help the students to practically express their findings as products conducive to the society.

VISION OF THE DEPARTMENT

To develop high quality, technically competent and socially responsible Engineers in the field of communication from rural background.

MISSION OF THE DEPARTMENT

1. *To imbibe technical skills among graduates relevant to the area of electronics and communication engineering field.*
2. *Making our students technologically superior and ethically strong.*
3. *To instill skills among students to meet the industrial requirement*

PROGRAM EDUCATIONAL OBJECTIVES (PEO'S)

Program Educational Objectives (PEOs) are Broad Statements that describe what Graduates are expected to attain within a few years of Graduation. Program Educational Objectives are based on the needs of the program's Constituencies.

OBJECTIVES OF THE PROGRAM

PEO1: Core Competence

Graduates Excel In analyzing, designing, simulating and testing of all Electronics and Communication Engineering.

PEO2: Breadth

Graduates exhibit their multidisciplinary skills to integrate Contemporary knowledge.

PEO3: Life Long Learning

Graduates can adapt to lifelong learning to enhance their technical skills.

PEO4: Professionalism

Graduates excel in their professional careers as Engineers, consultants and entrepreneurs.

PROGRAMME OUTCOMES (PO'S)

Programme outcomes are narrower statements that describe what students are expected to know and be able to do upon the graduation. They are formed in line withthe graduate attributes of NBA. These relate to the skills, knowledge, attitudes, values and behavior outcomes that students acquire through the programme.

Graduates will have ability to:

Programme Outcome 1 (Engineering Knowledge):

Understand and apply basic concepts of Mathematics, Physics, Chemistry and Engineering.

Programme Outcome 2 (Problem Analysis):

Understand and analyze circuit theory, electromagnetic theory, control theory, communication theory and apply them to electronics and communication engineering applications.

Programme Outcome 3 (Design & Development of Solutions):

Analyze and design the electronic components and to apply in analog and digital communication systems.

Programme Outcome 4 (Investigation of Complex Problem):

Analyze and design the electronic components and to apply in analog and digital communication systems.

Programme Outcome 5 (Modern Tools Usage):

Use contemporary computing tools and techniques in electronics and communication Engineering applications.

Programme Outcome 6 (Engineer and Society):

Handle engineering aspects of modern electronics and communication technology, utilization and the impact of engineering solutions to the

Societal needs.

Programme Outcome 7 (Environment & Sustainability):

Acquire knowledge of contemporary issues to sustain the ever changing environment.

Programme Outcome 8 (Ethics):

Apply the ethical principles to their profession and social issues.

Programme Outcome 9 (Individual & Team work):

Perform individually and in a group to accomplish a common goal.

Programme Outcome 10 (Communication):

Effectively communicate and present technological developments.

Programme Outcome 11 (Lifelong Learning):

Gain self-confidence to engage in lifelong learning.

Programme Outcome 12 (Project management & Finance):

Plan and manage a project in a cost effective manner.

ADMINISTRATOR'S MESSAGE

India has the world's largest population. It is not enough to only foster cognitive intelligence among the youth. The youth requires a mutual faculty endowed with multi dimensional intelligence. What are the objectives that the youth should work towards? These cannot be purely materialistic, materialistic Programme alone does not guarantee national security. What is essential is the character or integrity of the country's citizens. A national policy for integrating spiritual values and organization leadership can be achieved through measures by which we can create a modern Mindset among the youth. This will not only motivate them to acquire technical cognitive competence but also develop their emotional,, moral , social, spiritual, environmental and innovational intelligence. This will make them more patriotic self-reliant individuals of high character, possessing a social conscience. Such an army of evolved youth will be the asset of the nation

PRINCIPAL'S MESSAGE

I am happy to meet all of you through this magazine and I thank all the staff who strived to give professional education in a new perspective manner and achieve perfection in all the fields. The main reason for our tremendous performance in various activities is the involvement of the faculty members who motivated students whole heartedly to participate in the seminars, industrial visit, inter activity session and other extracurricular activities to

inculcate in them sound moral values, strong personality and eagerness to work in the society. Because of these efforts we have been successful in moulding the personality of our students and imbibe in them moral values and the spirit to team work. As a result 328 of our students leaving the institution in the year 2015 got placed in reputed and renowned firms. I wish this solidarity continues for successive years and we would be proud to release many more news letter like this, highlighting ourachievements. I have no doubts in near future PEC will be termed as one of the leading technical institutions in our district.

VICE PRINCIPAL'S MESSAGE

The Department of ECE has seen a considerable growth since its inception in the year 1995. The well qualified faculty and courses of this department aid to prepare students for careers as professional engineers through an education in fundamental principles as well as in the context of real application and design environment. The department encourages all students to take advantage of the opportunities provided by the institute and participate in all the extracurricular activities that are offered.

I wish to emphasis the importance of few things that we always have to remember. Parents and teachers should remember that students should not be forced, but should be guided to achieve their goals in an easy and pleasing ways, so that we can discover the touch of genius in each one of them

HOD MESSAGE

Department of Electronics and Communication Engineering is one of the largest department in Priyadarshini Engineering College. The department faculty work with excellent team spirit in different technical team like RF Electronics, Communication, Signal processing, VLSI, Embedded System, Wireless Sensor Network which leads to key research publications and consultancy in these areas. The department strives to provide a conductive environment for the students to develop analytical and practical skills and apply them to real world problems. To motivate the students the department organizes regular training in state of art software & hardware, arranges workshop, National & International Conferences periodically.

ARTICLES

Fingerprint Technology

A fingerprint is an impression of the friction ridges of all or any part of the finger. A friction ridge is a raised portion of the epidermis on the pal mar (palm and fingers) or plantar (sole and toes) skin, consisting of one or more connected ridge units of friction ridge skin.

Fingerprint may be deposited in natural secretions from the eccrine glands present in friction ridge skin (secretions consisting primarily of water) or they may be made by ink or other contaminants transferred from the peaks of friction skin ridges to a relatively smooth surface such as a fingerprint card. The term fingerprint normally refers to impressions transferred from the pad on the last joint of fingers and thumbs, through fingerprint cards also typically record portions of lower joint areas ofthefingers.

Today fingerprint devices are by far the most popular form of biometric security used, with a variety of systems on the market intended for general and mass-market usage. Long gone are the huge bulky fingerprint scanners; now a fingerprint-scanning device can be small enough to be incorporated into a laptop for security.

III YEAR ECE-B Section
V.RAGUL

Gi-Fi Techlonogy

For many years, cables ruled the world. Optical fibers played a dominant role because of its higher bit rates and faster transmission. But the installation of cables caused a greater difficulty and thus led to wireless access. The foremost of this is Bluetooth, which can cover 9-10metres. Wi-Fi followed it having coverage area of 91metres. No doubt, introduction of Wi-Fi (Wireless Fidelity) has brought a revolutionary solution to problem. However, the standard's original limitations for data exchange rate and range, number of channels, high cost of the infrastructure have not yet made it possible for Wi-Fi to become a total threat to cellular networks on one hand, and hard-wire networks, on the other. But the manâ€™s continuous quest for even better technology despite the substantial advantages of present technologies led to the introduction of new, more up-to-date standards for data exchange rate i.e., Gi-Fi .It will help to push wireless communications to faster drive.

Gi-Fi(Gigabit Fidelity) or Gigabit Wireless is the world's first transceiver integrated on a single chip that operates at 60GHz on the CMOS process. It will allow wireless transfer of audio and video data up to 5 Gigabits per second, ten times the current maximum wireless transfer rate at one-tenth of the cost, usually within a range of 10 meters. It utilizes a 5mm square chip and a 1mm wide antenna burning less than 2 mw of power to transmit data wirelessly over short distances, much like Bluetooth.

The development will enable the truly wireless office and home in the future. As the integrated transceiver is extremely small, it can be embedded into devices. The breakthrough will mean the networking of office and home equipment without wires will finally become a reality.

In this paper we present a low cost, low power and high broadband chip, which will be vital in enabling the digital economy of the future

IV YEAR ECE

SAKTHI DASAN

Single Electron Transistor

Single electron transistor (SET) is a novel idea and has been intensively studied. This review gives a general picture of SET, such as its mechanism, fabrication, application and problems faced.

During 1980s, the main discoveries in macroscopic physics are the tunneling of single electron and Coulomb blockade phenomena, which make many scientists predict that if the size of the quantum dots is reduced to several nanometers, it is highly possible to produce applicable single electron transistor (SET) which works above liquid nitrogen temperature, and this will bring a revolution to electronic science. Since then SET has been a hot research area. The breakthrough of nanotech as well as its successful combination with semiconductor technologies gives hope to SET, and some think that it will be a mature technique in the coming decade.

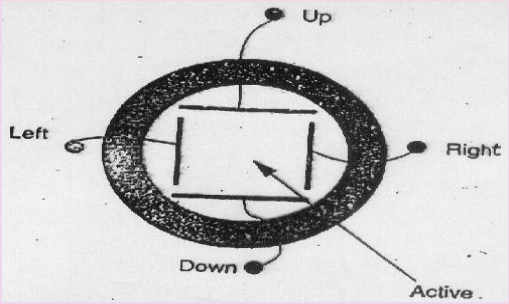
A conventional effect transistor, the kind that makes all modern electronics work, is a switch that turns on when electrons are added to a semiconductor and turns off when they are removed. These on and off states give the ones and zeros that digital computers need for calculation. One then has a transistor that turns on and off again every time one electron is added to it; we call it a single electron transistor (SET). Furthermore, the behavior of the device is entirely quantum mechanical Electron transport properties of individual molecules have received considerable attention over the last several years due to the introduction of single-electron transistor (SET) devices which allow the experimenter to probe electronic, vibrational or magnetic excitations in an individual molecule. In a three-terminal molecular SET the molecule is situated between the source and drain leads with an insulated gate electrode underneath. Current can flow between the source and drain leads via a sequential tunneling process through the molecular charge levels, which the gate electrode is used to tune.

III YEAR ECE-B Section

RAGAVAN A

DUAL AXIS PSD

This particular PSD is a five terminal device bounded by fourcollection surfaces; one terminal is connected to each collection surfaceand one provides a common return. Photocurrent is generated by lightwhich falls on the active area of the PSD will be collected by these fourperimeter electrodes.



The amount of current flowing between each perimeter terminal and the common return is related to the proximity of the centre of mass of the incident light spot to each collection surface. The difference between the "up" current and the "down" current is proportional to the Y-axis position of the light spot .Similarly ,the " right "current minus the "left" current gives the X-axis position. The designations "up","down", "right"and 'left"are arbitrary; the device may be operated in any relative spatial orientation.

II YEAR ECE A

MURUGESAN

POEMS

Winners versusLosers

The winner is always a part of the answer.
The loser is always a part of the problem.
The winner always has a programme.
The loser always has an excuse.
The winner says, "Let me do it for you".
The loser says "that is not my job".
The winner sees an answer for every problem.
The loser sees a problem for every answer.
A winner makes commitments.
A loser makes promises.
Winners have dreams.
Losers have schemes.
Winners say, "I must do something".
Loser says, "Something must be done".
Winners are a part of the team.
Losers are apart from the team.
Winners see possibilities.
Losers see problems.
Winners see the gain.
Losers see the pain

Nandhini

IV ECE

Examination

Raghul

III ECE

Nearing is our examination
Must study with concentration
English with its pronunciation
Signals with its classification
Maths with its transformation

Electronic circuits with its derivation Electrical engineering with its operation

Digital electronics with its simplification
OOP with its virtual function

Thereby increases our stress and tension and there is no time for relaxation...

College Campus

Madesh

IV ECE

1 st year

New entry
Respecting professors
Waiting in the class
Students introductions
Innocent faces
Silent tables
Getting arrears

2 nd year

Forming gang
Last bench rockers
Window sightings
Giggling in the middle
Outstanding students
Donating fine for ID cards
Group study
Clearing arrears

3 rd year

Often absent in the class
Frequent presence in canteen
Mocking with friends
Getting suspense's for vacation
Outing with friends
Sleeping in exam hall
Speaking in class hours
Show off among juniors

Ever rocking Prefinal years

Waiting for final year

நண்பா

எதையும்எதிர்பார்க்கவில்லை
என்றுகூறிவிட்டு
அன்பைஏதிர்பாக்குறியே
இதுஎன்னநியாயம்
அன்புகாட்டிதிரும்பவெறுப்பது
மனசுதாங்காதுகண்கள்தூங்காது
பிரிவுகள்தொடர்கின்றது
பிரியாமலேவளர்கின்றது
முதல்நட்பு ....

S.ARAVIND

THIRD ECE

பள்ளிமலர்கள்

மகளிர்கல்லூரிமலர்வனத்தின்
மண்ணில்விளைந்தபூக்கள்நாம்
வாசம்வீசிவலம்வந்த
வண்ணவண்ணமலர்கள்நாம்

கற்றதுகொஞ்சம்
கற்காததுஅதிகம்
ஆனாலும்நாங்கள்
உதிராதமலர்கள்

சண்டைகள்போட்டாலும்
சட்டைகள்கிழிந்ததில்லை
திட்டிக்கொண்டாலும்
நெஞ்சில்வஞ்சமில்லை

போட்டிகள்ஏராளம்ஆனாலும்
பொறாமைகொண்டதில்லை
தோல்விகள்ஆயிரம்ஆனாலும்
துவண்டுபோனதில்லை

ஒற்றைசைக்கிளில்
மூவராய்போனதும்
ஒளிந்துநின்று
பட்டங்கள்சொல்வதும்

கூடிக்கதைகள்கதைப்பதும்
கொஞ்சம்பொய்கள்சொல்வதும்
கேலிப்பேச்சுபேசியும்
கிண்டலடித்துச்சிரிப்பதும்

வாலுத்தனம்புரிவதும்
வாயைமூடிச்சிரிப்பதும்
வேஷம்போட்டுநடிப்பதும்
கோபம்போட்டுபிரிவதும்

பசுமையாய்மனதினில்
பதிந்துவிட்டநினைவுகள்
வாழ்வினில்ஒருமுறை
வந்துபோனநினைவுகள்
சோகங்கள்வந்துசூழ்கையில்
தோழியின்தோள்கள்
துணையாய்தலாட்டும்
தூய்மைஉறவுபள்ளிநட்பு....

JEEVA, FINAL ECE A

என்தோழன்

பொய்யில்லை..
போலியில்லை..
தேவைக்கேற்பபழகவில்லை!

முகத்தளவில்புகழ்பாடி...
வஞ்சம்பேசிவதைக்கவில்லை!

செய்தநன்றிமறக்கவில்லை..
உறவாடிகெடுக்கவில்லை!

உற்றநடப்பைக்கொல்லவில்லை..
உயர்வுதாழ்வுபார்த்ததில்லை!

வசதிகண்டுபழகவில்லை..
வசனம்பேசிமயக்கவில்லை!

வலிஇல்லை;
வாதம்இல்லை!
வேதனைகள்ஏதுமில்லை!

நட்ப்பைக்கூட..
தேவைக்கேற்பதேர்வுசெய்யும்..
இழிவுகண்டுவருத்தமில்லை!!

எனக்கெனயாருமில்லை..
துயர்ஒன்றும்கண்டதில்லை!
காரணம்...
எனக்குநானேதோழன்!!

SANKARI.S/FINAL ECE B

நட்பு

பூவிலேபிறந்து
நாவிலேஇனிக்கும்
தேனாம்நட்பு

ASHOK KUMAR

THIRD ECE

An exam today come rain or shine!

JOKES

Pupil: Great news, teacher says we have an exam today come rain or shi
Classmate: So what's so great about that ?
Pupil: It's snowing outside !

R.Parthiban

III ECE A

The Trains Are Always Late

A man was complaining to a railroad engineer.

What's the use of having a train schedule if the trains are always late.

The railroad engineer replied.

How would we know they were late, if we didn't have a schedule?

U r a nice person...

U r a nice person...

but..Uhave to do 2 things early in the morning...

1st. pray to God so that u can live....

2nd.take a bath so that others can live....

V.KISHORE KUMAR

III YEAR ECE

STANDING JOKES

When you cross a Christmas tree with an apple, you will get?
A pineapple!

A man shoplifted a calendar on Christmas Eve. What did he get?
He got all the 12 months!

How Thanksgiving Day differs from April Fool's Day?
One is the day of 'thanks' and another is the day of 'pranks'

What is the thing that often falls at the North Pole region, but it will never get hurt?
It's, Snow!
Which is the key that has legs and can never be used to open a door?
It's a Turkey!
What is the best thing which you can put into a Christmas cake?
Your teeth! *S.SABARIVASAN /FINAL ECE B*

RANGOLI

III Year ECE-B

Pavithra

Subashini

III YEAR ECE

L.RAMYA

&

D.MEENA

II YEAR ECE

S.PRIYANKA

S.SAHNMUGAPRIYA

PENCIL ART

ASWITHASHREE&ANUPRIYA

III ECE A

Shanmugapriya

II YEAR ECE-B

III Year ECE-A

Meeena

IV Year ECE-A

Rajkumar

HINDUMATHI

THIRD ECE

S.

S.MONISHA /THIRD ECE

R.NAGARAJAN

FINAL ECE