



**NATIONAL ENGINEERING COLLEGE**

(An Autonomous Institution, Affiliated to Anna University, Chennai.)



# EEE NEWSLETTER

**Vol-1 Issue-4**  
**October 2013**

# NATIONAL ENGINEERING COLLEGE

(An Autonomous Institution, Affiliated to Anna University, Chennai.)

**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

## NEWSLETTER

Volume 1 Issue 4 Oct 2013



### ABOUT THE DEPARTMENT:

The Department of Electrical and Electronics Engineering of National Engineering College is fully Equipped with state of art laboratories and its faculties consists of highly experienced professors, well qualified associative professors and dynamic assistant professors with commitment to give the young minds the very best they deserve.

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## VISION AND MISSION OF THE DEPARTMENT

### VISION

Promoting active learning, critical thinking coupled with ethical values to meet the global challenges.

### MISSION

- ✓ To instill state-of-the-art technical knowledge and research capability that will prepare our graduates for professionalism and life-long learning.
- ✓ To update knowledge to meet industrial and real world challenges.
- ✓ To inculcate social and ethical values.

### MILESTONES

The EEE Department was established in the year 1994 -95. Dr. M. Willjuice Iruthayarajan M.E., Ph.D., Professor & Head who has academic experience & Research experience for about 15 years, leads the department efficiently and successfully with 24 staff members to support.

- ✓ The department of Electrical and Electronics was started in the year of 1994 with the strength of 40 and the intake was increased to 60 at 1995. The Department was accredited by NBA for 3 years in July 2006 and Re-accredited by NBA for 3 years in September 2011.
- ✓ The EEE Department has got sanctioned an additional intake of 120 from this academic year (2011-2012).

The EEE department has excellent infrastructure and other facilities to provide quality education. The department has a team of highly qualified, stable and dedicated faculty members. The department organizes various programmes like FDP, Workshops, Conferences, Seminars, Guest Lectures, Symposium etc. for the benefit of the students, faculty and to the society. Apart from imparting knowledge through a dedicated team of experienced faculty, the department inculcates good ethics among the student community.

The EEE department has been ranked fifth out of 220 Engineering colleges in the branch-wise rank list released by Anna University for Nov/December 2008 Exam results. From the academic year 2005-2006 a Post Graduate Degree Programme M.E-High Voltage Engineering was started as a unique course under Anna University, Chennai. The Department has a fully equipped

- ❖ Applied Electronics Laboratory,
- ❖ Control and Instrumentation Laboratory,
- ❖ Electrical Machines Laboratory,
- ❖ High Voltage Laboratory
- ❖ Computer Centre
- ❖ Electrical Workshop.
- ❖ Liquid Dielectrics Laboratory.



## SPECIAL INTEREST GROUP

### MATLAB FOR POWER ELECTRONIC CIRCUITS



The Special Interest Group (SIG) on Power Electronics & Drives (PED), organized a Workshop on “**MATLAB FOR POWER ELECTRONIC CIRCUITS**” was conducted on odd Saturday of October 2013 by Mr. M.P.E.Rajamani Asst. Prof. (S.G) and Mr. S.Sankarakumar Asst. Prof. (S.G). The class was started at 10:30 am. Mr.Rajamani explained about how to construct and stimulate the various power electronic circuits using MATLAB. He made us to understand the design of the required control circuitry in a well defined situation. The students gained good knowledge in that area and he advices to take practices in that programme. Mr.Sankarakumar explained about testing and finding of critical states and regions of operation and He also discussed the real time application based on power electronics. He conducted a test at the end of the program. And they provided the certificates based on their performance. The students participated voluntarily with enthusiasm. The meeting got over by 2.30pm.

### SIGNAL PROCESSING AND EMBEDDED SYSTEMS

The Special Interest Group meeting for Signal processing and Embedded system was conducted on 27.09.2013(Friday). Mr.N.B.Prakash (Asso. Prof.) gave some basic introduction about FUZZY LOGIC and he handled over the session to Mr.S.Saravanakarathi (Assistant Professor). He explained how fuzzy can be implemented in our day to day life and also explained some application oriented information regarding Signal Processing. And the next session was handled by Ms.K.Gowthami (Assistant Professor). She explained the basic concepts of VHDL coding and design. The students are allowed to practice the VHDL codings in the computer practically. The students gained full benefit of the VHDL program. The session ends up at 5.10pm.

## EEE ASSOCIATION ACTIVITIES



The Department of Electrical and Electronics Engineering was conducted an one day Intra College Technical Symposium (ELEKTRISCHE'13) on 3-9-2013 (Thursday) at 10.00 am. Mr.M.Ajay Rajagopal (Founder of Nakshatras & Ex-Vice President of Microsoft Gulf) was the Chief Guest of the day. Mr.M.Ajay Rajagopal is an Alumni of our EEE Department (2003 BATCH). The Welcome Address was given by Mr. M. Venkadesh (Secretary/EEE Association). The function was inaugurated by the Chief Guest by lighting the kuthuvillakku in the presence of the Principal Dr.P.Subburaj, Dr.M.Willjuice Iruthayarajan (HOD/EEE) and Mr.G. Kannayeram, Assistant Professor (SG). The Introduction of Chief Guest was given by Ms.B.Aneesha (Treasurer/EEE Association).

The Presidential Address was delivered by our beloved Principal Dr. P.Subburaj followed by honoring the Chief Guest. The EEE Newsletter Volume No. 1 Issue 3 was released by the Chief Guest successfully.

In the special address Mr. Ajay emphasized that the importance of GATE exam and he advised them to have the knowledge on the basics of Electrical Engineering. He also explained about the benefits of pursuing MBA in future. Later the students had an interaction with the Chief Guest in EEE Department Computer Center.



The paper presentation and quiz competition were conducted for the students. The first prize for paper presentation is won by M.Esakki & P.Manikandan from II year CSE Department and the second prize was won by P.Amala Priya & F.Alma Margret from II year EEE. The first prize for Quiz competition was won by the Students form ECE Department and the second prize was followed by M.Pranava Karthikeyan and P.Shanmugam from II year EEE. The vote of thanks was delivered by Mr. S.Sudalai Kumar (Program coordinator/EEE). And the program came to an end at 5:00 P.M.



**INSTITUTION OF ENGINEERS (INDIA)**  
**DISTRIBUTION OF PRIZES – ODD SEMESTER**



The Department of Electrical and Electronics was organized an Prize Distribution Function for ODD Semester Events 2013 – 2014, of Institution of Engineers (INDIA) on 24<sup>th</sup> October 2013, 3.30 pm at EEE Computer Center. The honorable Head of the department has presided the function. At the beginning the Staff advisor of IE (India) Dr.R.Karthik welcoming the gathering and encourage them to continue the various competitions and events on upcoming semester. He advised that the continuous improvement in our activities leads to success. Then the Head of the Department Dr.M.Willjuice Iruthayarajan gave the certificates to the winners of various events conducted by IE (India) in this semester 2013-2014 such as Technical Paper presentation and Quiz Competition. Also he distributed the certificates to the participants who participate the one day expert lecture titled “A Review on Electronics and Circuit Troubleshooting” delivered by Mr.B. Venkatasamy Asst.Prof/ EEE and he congratulate the prize winners. Then Dr. M. Willjuice Iruthayarajan motivated the prize winners and participants through his inspired speech.

## ISCT'13– WORKSHOP



The department of Electrical and Electronics has conducted 3 days workshop on “IMPLEMENTATION OF SOFT COMPUTING TECHNIQUES USING MATLAB ISCT '13” during 23 – 25<sup>th</sup> October 2013. On the first day the Workshop has been inaugurated by our Honorable director Dr.K.N.K.S.K.Chockalingam and our beloved Principal Dr.P.Subburaj. During inaugural function our principal gave an Presidential address. The Special Address was given by our HOD. During his

address he pointed out that Soft Computing Techniques plays a major role in research field. The first session of the program was “Introduction of MATLAB” handled by Mrs.R.V.Maheswari Asso.Prof./EEE. She explained the basic concepts of MATLAB and the future scope of MATLAB field in the research field. She made them to understand the various codings used in the process of MATLAB.

And the remaining sessions of first day and second day of the program were Genetic Algorithm and the Genetic Algorithm implementation using MATLAB handled by Dr.M.Willjuice Iruthayarajan HOD/EEE. He explained about the Genetic Algorithm and how the Genetic algorithm can be implemented using MATLAB and Differential Evolution Algorithm. Also he illustrated the concept of Particle Swarm Optimization (PSO) and its implementation. The participants gained sound knowledge in these areas.

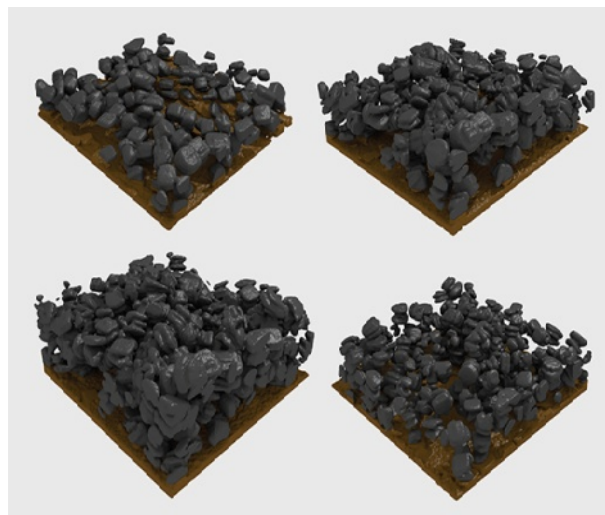
The final day session, “Implementation of Neural Network and Fuzzy logic” was handled by Mrs.L.Kalaivani Asso.Prof./EEE. She explained about fuzzy, neural network. She made us to understand about the benefits and applications of soft computing. She listed the difference between soft computing and hard computing techniques. Through this we are able to understand the use of soft computing techniques and also we got some ideas about hybrid intelligence and expert system. Also she explained about neural network and its Applications in real time situations. It gave us much information about soft computing techniques and insisted us to do some projects regarding soft computing techniques. The program got over by 3.30pm on 25<sup>th</sup> October. The valedictory function has been held at EEE department computer centre presided by the Director Dr.K.N.K.S.K.Chockalingam who handed over the certificates to the participants and appreciated the participants and advised them to participate the more workshops in future.



## TECHNICAL ARTICLES

### STANDARD LITHIUM ION BATTERIES

Standard lithium-ion batteries, like the ones in everything from your cell phone to your plug-in electric vehicle, have electrodes that contain intercalation compounds. They are capable of charging and discharging without substantial change in volume or structure, but are limited with regard to energy density. Recently, much work has been done on battery materials with significantly higher energy densities, but these materials typically degrade extremely quickly. Now, for the first time, researchers have found a way to see clearly what is really happening inside the electrodes that leads to that short lifespan, potentially opening a way to engineer our way around the problem.



Using the tomographic x-ray microscopy beam (TOMCAT) at the Swiss Light Source, researchers showed that a tin-oxide electrode expands during charging thanks to an influx of lithium ions. That influx-induced increase in volume turns out to cause irreversible damage by forming cracks within the electrode particles. Martin Ebner, one of the study authors and a PhD student at ETH Zurich, said in a press release that the crack formation is not random; the cracks form at spots where defects already exist. During discharge, the tomography imaging showed that the volume does decrease, but the cracks prevent the electrode from returning to its initial state. The image above shows the tin oxide particles undergoing such structural deformation during charge and discharge.

Specifically, the electrode they measured started life at 50 micrometers, and expanded more than 100 percent to 120  $\mu\text{m}$  during charging; it then shrank back to only 80  $\mu\text{m}$ . The average particle volume fraction, meanwhile, decreased back to a level *below* where it started, which the authors write implies the polymer binding the particles and the conductive matrix are distorted after just the one charge. "This distortion of the conductive matrix, together with particle fracture, is known to electrically disconnect particles from the rest of the electrode leading to capacity loss," they write. The researchers conclude that "the type of quantitative three-dimensional, and time-resolved images of particle lithiation introduced in this work will provide the experimental data necessary to comprehend the complex electrochemical and mechanical interactions in silicon and related materials."

- **M.Muthu Meena Sundari (Third EEE)**

## TEENY TINY PACE MAKER

A tiny pacemaker that doesn't need wires to stimulate the heart has been approved for sale in the European Union. It's the world's first wireless pacemaker to hit the market. This device, which is about the size and shape of a AAA battery, is designed to be inserted into the heart in a non-invasive procedure that would take about a half-hour.



The device was developed by a secretive California startup called Nanostim, which by the biomedical device company St. Jude Medical. The company will have to do more clinical trials before the device can be submitted for approval to the U.S. Food and Drug Administration.

Today's pacemakers are already pretty small—about the size of three poker chips stacked up—but to insert one a surgeon has to cut open a patient to install the device near the heart, and then connect the wires, called leads, to provide electrical stimulation to the heart muscle. Those leads are often the source of the problem when pacemakers fail. The tiny wires can fracture or move as the heart beats continuously and St. Jude has had several pacemakers recalled as a result of faulty leads.

The Nanostim device is put in place via a steerable catheter that's inserted into the femoral artery. The tiny pacemaker is attached to the inside of a heart chamber, where it can directly stimulate the muscle. St. Jude says the pacemaker's battery should last for 9 to 13 years, and says that the pacemaker can be removed and replaced in a similar procedure to the insertion. The market for such a device is large: More than 4 million people worldwide now have a pacemaker or a similar device to manage their cardiac rhythms, and 700 000 new patients receive such devices each year.

- **K. Shiek Alshaba (Final EEE)**

## TOP WEBSITES TRACK YOUR DEVICE FINGERPRINTS

Websites that really want to track you without permission have a way. A new report shows a surprising number of top Internet websites using so-called "device fingerprints" to secretly track visitors—a method that avoids legal limits on the use of cookies and also ignores the Do Not Track HTTP header.

The new report suggests that such secret tracking of Web users is more widespread than previous studies had found, according to researchers from KU Leuven in Belgium and New York University (NYU). Researchers counted 95 of the top 10 000 websites using device fingerprinting targeted at the Flash browser plugin used to play animations, videos, and sound files. They also found 404 of the top 1 million websites used device fingerprinting targeted at the JavaScript programming language used in web applications. Such fingerprinting can identify users on mobile phones and other devices that may not use Flash.

Device fingerprinting collects the properties of PCs, smartphones, and tablets that people use to access the Internet in order to create a unique identification. The fingerprint properties—including screen size, versions of installed software, and even lists of installed fonts—allow websites to track users without relying on the more common Internet cookies to follow users' online activities.

The technique can even track users who had requested not to be tracked by enabling a Do Not Track HTTP header, researchers found. The Do Not Track project has attempted to create a universal standard for opting out of online tracking that goes beyond implementation by individual web browsers, but the *Washington Post* reports that recent Do Not Track discussions by a working group organized under the World Wide Web Consortium (W3C) appear close to collapse.

The rise of device fingerprinting, also known as browser fingerprinting, falls under the category of "supercookie" technologies that avoid the traditional restrictions on tracking cookies, according to Information Week. Even anonymous Web-browsing tools such as Tor have vulnerabilities that allowed device fingerprinting to track users according to font lists. Luckily, anybody who wants to scrutinize their favorite websites for such digital fingerprinting technologies can soon do so with the FPDetective tool used by the researchers



- **A. Muthu Selvi ( Final EEE)**

**STAFF ACHIEVEMENTS****PH.D., THESIS SUBMISSION:**

**Mr.M. RAVINDRAN** (Associate Professor) was submitted his Ph.D. Thesis titled, “Some Studies about Switched Reluctance Motor” in Gandhigram University, Dindugal.

**JOURNAL PUBLICATION:**

**Dr.M.Willjuice Iruthayarajan**, Paper titled on, “Multilevel thresholding for segmentation of medical brain images using real coded genetic algorithm”, Measurement, Vol. 47, January 2014, pp. 558 – 568. 2014.

**WORKSHOP/SEMINAR ATTENDED:**

College Name	Staff Name	Title	Role/ Workshop/ Seminar	Date
Central Power Research Institute, Bangalore	Dr.M.Willjuice Iruthayarajan, Prof and Head	Evolutionary Algorithm based Cost Minimization of Hybrid Power Generation System	Resource Person	11 <sup>th</sup> and 12 <sup>th</sup> October, 2013
		Optimization of Controllers in Hybrid Power Generation System		
Central of Continuing Education, IIT Madras	Mr.S. Senthil Kumar, (Asst. prof.)	Recent Trends in Condition Monitoring of Power Apparatus In System	Seminar	14 <sup>th</sup> - 18 <sup>th</sup> October, 2013
SASTRA UNIVERSITY, Tanjore	Mr.N.B.Prakash (Asso. Prof.) Mr.S.Senthil Kumar (AP) Mr.P.Samuel Pakianathan (AP) Mr.M.Bakruthen (AP) Mr.B.Vigneshwaran (AP) Mr.S.Divya (AP)	High Voltage Insulation Testing, Measurement and Simulation Techniques	Workshop	28 <sup>th</sup> September
National Engineering College E & I - Dep	M.Bakruthen, (Asst. Prof.)	Board of Research in Nuclear Sciences (BRNS) sponsored Three Day National Seminar on “Research Issues on Non Destructive Evaluation”	Seminar	19 <sup>th</sup> - 21 <sup>st</sup> September 2013
National Engineering College EEE - Dep	B.Vigneshwaran, (Asst. Prof.)	Implementation of Soft Computing Techniques Using MATLAB” ISCT’ 13	Workshop	23 <sup>rd</sup> – 25 <sup>th</sup> October, 2013



**STUDENTS ACHIEVEMENTS**

The following students are got the university ranks during the academic year 2012 - 2013 University Examination conducted by Anna University, Chennai.

S.No	Reg.No.	Student Name	CGPA	Class	Rank
1.	96209105036	PRAMILA BANU. A	9.05	First Class with Distinction	2
2.	96209105018	JAMUNA. N.S	8.93	First Class with Distinction	6
3.	96209105052	SOWMIYA. A	8.90	First Class with Distinction	7
4.	96209105020	JENITTA. D	8.83	First Class with Distinction	12
5.	96209105049	SHYLIN BABU. R	8.68	First Class with Distinction	23
6.	96209105023	KARPAGAVALLI. K	8.47	First Class	42
7.	96209105030	MENAKA. S	8.38	First Class	50

The Following students got prizes/participate certificates at various competition conducted in various colleges during the month of September to October, 2013.

SI.NO	ORGANIZERS	NAME OF THE STUDENT	YEAR	RANK/STATUS	EVENT
1.	Sri Subramaniya Collge of Engineering & Technology, Palani	B.Mahiba Cthaline S.Aswni	III	Participated	Paper Presentation
2.	Sri Subramaniya Collge of Engineering & Technology, Palani	B.Mahiba Cthaline	III	I	Technical Quiz

3.	K.S.R.College of Engineering, Namakkal	N.Arun Kumar S.Ahamed Ibrahim	III	I	Paper Presentation
4.	Meenakshi College for Women	C.Senthil Vel S.Sarath Kumar	III	Participated	Paper Presentation
5.	Kamaraj College of Engineering, Virudhunagar	M.Thanga Rathna P.Nathini Devi	III	Participated	Paper Presentation
6.	Kamaraj College of Engineering, Virudhunagar	M.Thanga Rathna	III	I	Technical Events
7.	Renganathan Engineering College, Coimbatore	B.Saratha Devi	III	Participated	Paper Presentation
8.	NarayanaGuru Engineering College, Kanyakumari	M.Revathi S.Rama Lakshmi	III	Participated	Paper Presentation
9.	IE(I) – NEC	B.Rizwana Raseena G.Sridevi	III	I	Paper Presentation
10.	NCC – NEC	S.Rama Sankari C.Jeya Rani	III	II	Paper Presentation
11.	NCC- NEC	C.Jeya Rani	III	II	Situation Responsibility
12.	IEEE - NEC	C.Sangeetha P.Shree Uthra	III	II	Quiz (IEEE celebration day)
13.	IEEE – NEC	S.Sudha S.Sriram	III	I	Quiz (IEEE celebration day)
14.	ELEKTRISCHE 2K13(EEE Association- Intra College Symposium)	Alma Margret Amala Priya	III	II	Paper Presentation

15.	J.P. College of Engineering, Tenkasi	Mohamed Suhail M.Gopal	II	Participated	Paper Presentation
16.	ELEKTRISCHE 2K13(EEE Association-Intra College Symposium)	P.Shanmugam M.S.Pranava Karthikeyan	II	II	Quiz
17.	NSS – NEC	M.S.Pranava Karthikeyan	II	II	Free Hand Sketching
18.	NSS - NEC	P.Shanmugam M.S.Pranava Karthikeyan	II	II	Paper Presentation
19.	PSN College of Engineering, Sattur	R.S.Saranava Kumar Naveen Lingam Narayanan	II	III	Hockey
20.	Sivanthi Adithanar College of Engineering,	V.Suresh Kumar	II	Participated	Relay
21.	Sivanthi Adithanar College of Engineering,	V.Suresh Kumar	II	Participated	400 m
22.	VOC College of Engineering & Arts	V.Suresh Kumar	II		Fine Arts
23.	National College of Engineering, Tirunelveli	S.M.K.Udhaya Vijay	II	III	Basket Ball
24.	PSN College of Engineering, Sattur	K.Narayanan M.Naveen Lingam R.S. Saravana Kumar	II	III	Hockey
25.	Hopes college of Engineering	Santhana Kumar	II	Participated	Kabadi
26.	National Engineering College (Zonal Meet)	Sam Maxwell	II	I	Football

## ALUMNI INTERACTION

**Mr .AJAY RAJAGOPAL**

**(2003 BATCH)**

**Success seems to be connected with action. Successful people keep moving. They make mistakes, but they don't quit**

EEE Association of our college, rendering its maximum effort solely for the benefit of students arranged for an interaction session with Mr. Ajay Rajagopal, founder of Nakshathras, alumni of our college on 3<sup>rd</sup> October 2013. Students participated in the interaction with great enthusiasm. The session moved with the discussion of the future career of the students after completion of their Bachelor degree. At first he spoke about his footsteps towards dreams. He quoted that it is a high time that students should choose their career. He advised that after completion of study, they will be able to survive in a competitive world. As he was an MBA graduate, he has the sound knowledge about the different exams like CAT, MAT, XAT etc., and the colleges which consider those marks for their student selection.

He also mentioned that many colleges conduct their own entrance exams and he encouraged them to have the active participation in those exams. Then he spelled out few words about the GATE and IES exams. He asked the students to have good contact with their alumni so that they would be cherished with their ideas. He advised the students to be a smart worker than a hard worker. His most sparking words were 'Mere earning money doesn't mean anything. Work for your dreams.'

Students participated in the interaction with great interest. He also clarified the doubts of the students very patiently. They were awe struck with the achievement of their alumni and were greatly kindled by his speech.' If your actions inspire others to dream more, learn more , do more and become more, you are a leader.' At the end of the session the students felt more confident about their future being inspired by their leader.



## ALUMNI INTERACTION

### MR.S.SUDALAISHUNMUGAM

**M.E – (HVE) 2010 - 2012**



An interaction session was arranged by the EEE Department of our college on 4<sup>th</sup> October 2013 with Mr. S. Sudalai Shunmugam, working as a research fellow in CPRI, Bangalore. He is an alumni of our college and also he worked as Asst. Prof. in our college for one year. His speech was inspiring and motivating. To begin, he highlighted that “Great men are not born great, they grow great”. He advised the students to dream more and strive hard to achieve their dreams. He asked them to plan how their future is going to be. He mentioned that students should believe that they could achieve anything; only thing they have to follow their dreams. He motivated that, ‘No one can achieve great at his first attempt. He should work hard with failures as their stepping stones to successes’

### MR.V.SAM STEPHEN

**B.E – (EEE) 2004 - 2008**



A Technical talk on Programmable Logic Controller hosted by Careerpluz on 14.10.2013 by EEE Association. The session was handled by Mr.Sam Stepher, Founder & CEO, Careerpluz. He then said the improve of learning about the controllers PLC & SCADA. First of all, he explained the drawbacks and the wastage of time and money in a system without controllers. He then lectured how controllers has overcome those drawbacks and how efficient they are. He quoted out few controllers, explaining how they were in the past and added about their updates. Thus he made clear in the minds of the students how controllers play an innovative role in our day to day life. Afterwards he started his detailed explanation aboutthe basic “Programmable Logic Controllers”. The students were greatly benefitted and they were enriched with the basic idea about the controllers

## TIME TO KNOW ABOUT OUR ALUMNI

SAM STEPHEN. V

**2004 – 2008 BATCH**



Born on April 1, 1987 Mr. Sam is a B.E. Electrical and Electronics Engineer from National Engineering College (2004-2008) and M.B.A from Madurai Kamarajar University (2008-2010). He began his career with Waves Innovation in Madurai. In 2010, He was the founder of E-Careerpluz Info India Private Limited. His organization is exclusive for training research scholars and students. Apart from undertaking Electrical and Electronics products, they concentrate on multi domains and in corporate cutting edge technologies, quenching the thirst of knowledge of budding software professionals, Electronics Engineers, Mechanical Engineers and Electrical Engineers by offering thought provoking and real time application oriented projects. Utilizing their guidance around 23,864 candidates has successfully completed their trainings, workshops and projects. They tie up with 78+ schools, colleges, government sectors, banks and NGO's.

**“To walk safely towards the bright future, one needs the light of  
Wisdom and the Guidance of virtue”**

At the Month of June 2013, they got an award of “BEST OF MADURAI” Online Media DialMadurai for outstanding performance in Technical Training Courses.

**BALA SUBRAMANIAN.B****1998 - 2002**

**Mr. B. Bala Subramanian is a B.E. Electrical and Electronics Engineer from National Engineering College (1998-2002). Having total of 9 plus Years of Experience** in analysis, design, development, and implementation of application software in banking domain in **POLARIS Financial technology Limited. He has the certifications of** Accel IT Academy Certified Hardware and Net Working Engineer and Undergone extensive Training on JAVA at SSI., Chennai. Also he has STC Certified Testing Engineer

- Possess management expertise for projects based on various technologies like Java, Oracle blended with empathy to understand client's needs / specifications, and an extensive background in following broad-based competencies
  - Project Management Portfolio management
  - Managed Profitability
  - Client Satisfaction
  - Client Negotiation
- Team Building and leadership
- Coordinating the team across the Business units

## GUEST LECTURE



The Department of Electrical and Electronics Engineering organizes a Guest Lecture with Mr. Muthuraj, Senior Manager, R&D, Crompton Greaves (P) Ltd, Mumbai, for PG Students and Staff members on 05.11.2013 titled “RECENT TRENDS IN HIGH VOLTAGE ENGINEERING”, The session was start over at 10.00 am. Mr.Muthuraj explained about the various issues in High Voltage Engineering like,

- ✓ Basic Concepts in High Voltage Engineering
- ✓ Basics things to follow High Voltage Engineering
- ✓ Generation and Measurement Techniques of High Voltage AC, DC and Impulse
- ✓ Recent research topics Undergone in High Voltage Field

He advises the PG Scholars to plan their futures along with their dreams and finally he gave some carrer tips to place in Core Company.



**RECENT EVENTS**

COLLEGE NAME	SYMPOSIUM	DEPT	DATE	LINK
PSG College of Technology	National seminar on LOW VOLTAGE SWITCH GEAR	EEE	26.10.2013	<a href="http://www.psgtech.edu/LVBrochure2013.pdf">http://www.psgtech.edu/LVBrochure2013.pdf</a>
Paavai Engineering College, Namakkal.	One day workshop on “Advanced MATLAB Programming	ECE/ EEE	18.10.2013	<a href="http://pec.paavai.edu.in/UpcomingEvents.aspx?Events=wrkshpece250913">http://pec.paavai.edu.in/UpcomingEvents.aspx?Events=wrkshpece250913</a>
As - Salam College of Engineering & Technology, Tanjore	National level workshop On MATLAB implementation on Power Control Systems	EEE	19.10.2013	<a href="http://www.technicalsymposium.com/technicalsymposium2013_sep_implementation.html#UI1Z2tJHLiO">http://www.technicalsymposium.com/technicalsymposium2013_sep_implementation.html#UI1Z2tJHLiO</a>
Sri Krishna College of Engg & Tech, Coimbatore	Simulation of PIC16F in MPLAB using Embedded C	EEE	25.10.2013 26.10.2013	<a href="http://www.technicalsymposium.com/technicalsymposium2013_sep_Simulation.html#UI1ZTNJHLio">http://www.technicalsymposium.com/technicalsymposium2013_sep_Simulation.html#UI1ZTNJHLio</a>
SASTRA University, Tanjore	National Conference on Advances in Process Engineering	All Engg Dept	18.10.2013 19.10.2013	<a href="http://www.sastra.edu/cape2013/">http://www.sastra.edu/cape2013/</a>
SCSVMV UNIVERSITY, Kanchipuram	2nd National Conference on Power Systems Emergencies (NPSEC-2013)	EEE	12.12.2013	<a href="http://www.kanchiuniv.ac.in/EEE/npsec2013/Home.html">http://www.kanchiuniv.ac.in/EEE/npsec2013/Home.html</a>

Kathir College of Engineering Coimbatore	TWO DAY NATIONAL LEVEL WORKSHOP on LabVIEW Primer	EEE	12.12.2013 13.12.2013	<a href="http://kcelabview.webs.com/">http://kcelabview.webs.com/</a>
EASA COLLEGE OF ENGINEERING AND TECHNOLOGY, COIMBATORE	2ND NATIONAL CONFERENCE ON MODELING AND SIMULATION OF ENGINEERING SYSTEMS (NCMSES - 13)	ECE	4.11.2013	<a href="http://www.technicalsymposium.com/">http://www.technicalsymposium.com/</a> <a href="http://www.technicalsymposium.com/technicalsymposium2013_oct_easa_ec.html">/technicalsymposium2013_oct_easa_ec.html</a>
University College of Engineering, Ariyalur	E'ARC-2K13	EEE	19.10.2013	<a href="http://www.technicalsymposium.com/">http://www.technicalsymposium.com/</a> <a href="http://www.technicalsymposium.com/technicalsymposium2013_oct_earc.html">technicalsymposium2013_oct_earc.html</a>
Easwari Engineering College, Chennai	One Day National Level Workshop "Design, Analysis and Operation of On Power Systems	EEE	21.10.2013	<a href="http://www.technicalsymposium.com/technicalsymposium2013_oct_eswari.html#UIIdeNJHLiO">http://www.technicalsymposium.com/technicalsymposium2013_oct_eswari.html#UIIdeNJHLiO</a>
Noorul Islam University, Thucklay	<b>IEEE INTERNATIONAL CONFERENCE ON CIRCUIT, POWER AND COMPUTING TECHNOLOGIES  (ICCPCT-2014)</b>	EEE	20 and 21 March 2014	( <a href="https://www.easychair.org/conferences/?conf=iccpct2014">https://www.easychair.org/conferences/?conf=iccpct2014</a> ).

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**CRACK GATE....**

1) The impulse response of a system is  $h(t)=t*u(t)$ .for an input  $u(t-1)$ .the output is

- a)  $t^2u(t)/2$                       b)  $t(t-1) u(t-1)/2$   
c)  $(t - 1)^2u(t-1)/2$       d)  $(t^2-1) u(t-1)/2$

2) The value of  $\int_0^{5\pi} (2 - \sin x) dx$  is

- a)  $>0$                                   b) 2  
c) 0                                        d) undefined

3) The energy stored in the magnetic field at a solenoid 30 cm long and 3 cm diameter wound with 1000 turns of wire carrying a current at 10 amps  
1) A signal may have frequency component which lying the range of 0.001HZ to 10HZ

- a) 0.015J                                b) 0.15J  
c) 0.5J                                    d) 1.

4) A pulse train can be delayed by a finite number periods using of clock

- a) A serial in serial shift register  
b) Serial in parallel out shift register  
c) A parallel in serial out shift register  
d) Serial in parallel out shift register

5) A four pole generator with 16 coil has two layer lap winding the pole pitch is

- a) 32                                        b) 16  
c) 8                                         d) 4

6) A 4 pole dynamo with wave wound armature has 51 slots containing 20

conductors in each slot. If induced emf is 357v and speed is 8500rpm flux per pole will be

- a) 3.5 mwb                                b) 1.2 mwb  
c) 14 mwb                                d) 21 mwb

7) As the temperature is increased the voltage across a diode carrying a constant current

- a) Increases                              b) Decreases  
c) constant                                d) None of this

8) The controlling torque I single phase power factor meters is provided by

- a) spring control                        b) Gravity control  
c) stiffness of suspension      d) None of this

9) The number of comparators needed in a parallel conversion type 8 bit ADC is

- a) 8    b) 16  
c) 255                                        d) 256

10) The maximum value of mutual inductance of 2 inductively coupled coil with self inductance,  $L_1=49$  mH  $L_2=81$  mH is

- a) 100mH                                 b) 63mH  
c) 32mH                                    d) 49mH

11) A signal may have frequency component which lying the range of 0.001HZ to 10HZ. Which of the following type of coupling

should be chosen in a multistage amplifier designed to amplify the signal?

- a) RC coupling    b) Transformer coupling  
c) Direct coupling    d) None of this

12) If Differential amplifier has a differential gain of 20000 CMRR=80db then common mode gain is

15) The critical clearing time of a fault in power system is related to

- a) Reactive power limit    b) Transient stability limit  
c) Both a and b    d) None of this

16) In an induction type of meter maximum torque is produced when the phase angle b/w the 2 flux is

- a) 90deg    b) 40deg    c) 180deg  
d) 270deg

17) The maximum temperature rise of a transformer is 50deg celcius. It attains a temperature of 31.6deg ½ hour. What is the thermal time constant?

- a) 1/2 hour    b) 1/4 hour  
c) 1/8 hour    d) None of this

- a) 0    b) 1  
c) 1/2    d) 2

13) The steady state error of a stable type zero unity feedback system for a unit step function is

- a) 0    b)  $\frac{1}{1+Kp}$     c) infinite  
d) None of this

14) If  $\phi$  is the loss angle of the cable then its power factor is

- a) Sin    b) cos    c) tan  
d) Both a and b

18) The system  $X = \begin{bmatrix} 2 & 3 \\ 0 & 5 \end{bmatrix} X + \begin{bmatrix} 1 \\ 0 \end{bmatrix} u$  is

- a) controllable but unstable    b) Uncontrollable and unstable  
c) Stable    d) controllable



**SOLUTIONS:**

1. (c)

2. (a)

Soln:

$$\int_0^{5\pi} (2 - \sin x) dx = [2x - \cos x]_0^{5\pi}$$

$$= 10 - 1 - 1 = 10 - 2 > 0.$$

3.(a)

Soln:

$$L = (N^2 \mu_0 A) / L$$

$$= (10^6 \cdot 4\pi \cdot 10^{-7} \cdot \left(\frac{\pi}{4}\right) \cdot (9 \cdot 10^{-4})) / 0.3$$

$$= (1/2)L \cdot I \cdot I = 0.15J$$

4.(a)

5.(d)

6. (b)

Soln:

$$E = Z \cdot n \cdot (P/A)$$

$$357 = 17 \cdot 8500 \cdot 2$$

$$= 1.2mwb$$

7.( a)

8.(d)

9. (c)

Soln:

For parallel conversion type ADC  
No.of comparators required

$$= 2^N - 1 = 2^8 - 1 = 255.$$

10. (b)

Soln:

$$M < K \sqrt{L_1 L_2}$$

$$M_{max} = K \sqrt{L_1 L_2} = \sqrt{49 \cdot 81} = 63mH$$

11.(c)

12. (d)

Soln:

$$20 \log \frac{A_d}{A_c} = 80$$

$$\frac{A_d}{A_c} = 10^4$$

$$A_c = (2 \cdot 10^4) / 10^4 = 2$$

13.(b)

14.(a)

15.(b)

16.(a)

17. (a)

Soln:

$$31.6 = 50 \cdot (1 - e^{-\frac{t}{T}})$$

$$(1 - e^{-\frac{t}{T}}) = 0.632$$

$$T = 1/2hrs$$

18.(b)

## Memorable Moments..



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