NATIONAL ENGINEERING COLLEGE

(AN AUTONOMOUS INSTITUTION)

K.R.NAGAR,KOVILPATTI-628503.

EEE NEWSLETTER

JULY 2019

Volume 7 Issue 2

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

CONTENTS

STAFF ACTIVITIES/PUBLICATIONS/ACHIEVEMENTS

STAFF ACTIVITIES

S.No.	Name of the Staff	Events/Guest Lecture	Topic/Event	Date	College/ Industry
1.	Dr.M.Willjuice Iruthayarajan, Professor and Head/EEE & M.Sivapalanirajan, AP/EEE	One week QIP - AICTE	Robotics and Control	01st – 05th July 2019	Indian Institute of Technology, Roorkee
2.	Dr.L.Kalaivani, Professor/EEE & Dr.R.V.Maheswari, Professor/EEE	One week QIP - AICTE	Engineering Optimization	15th – 19th July 2019	Indian Institute of Science, Bengaluru
3.	Dr.M.Ravindran, Asso. Prof(SG)/EEE & Mr.N.Sankar, AP/EEE	One week QIP - AICTE	Solar Energy systems	01st – 05th July 2019	Indian Institute of Science, Bengaluru
4.	Dr.G.Kannayeram, AP(SG)/EEE	One week QIP - AICTE	Micro grid and Renewable Energy Technologies	06th – 11th June 2019	IIITDM, Chennai
5.	Mr.M.Gengaraj, AP/EEE	One week Short term training	FPGA based Controller design for Power Electronic Converters	10th – 14th June 2019	Indian Institute of Science, Bengaluru

PUBLICATIONS

- ✓ *A. Ann Rufus,* ***L. Kalaivani,*** "A GOA–RNN controller for a stand-alone photovoltaic/wind energy hybrid-fed pumping system", Soft Computing, https://doi.org/10.1007/s00500-019-04224-8 - **Impact Factor: 2.784**

- ✓ ***Prakash NB,*** Shiny G, ***Kannayeram G*** and Madavan R, "Statistical analysis of silicon grease coated bushings characteristics under various contamination conditions", International Conference on Innovation in Electrical Electronics and Intelligent Computing, 19th – 20th July 2019.

ACHIEVEMENTS

1. ***Dr.M.Willjuice Iruthayarajan, Professor and Head/EEE*** has delivered the expert lecture in a Two day TNSCST sponsored Workshop on '**Optimization techniques',** organized by PG and Research department of Mathematics**,** ST. Mary's College, Tuticorin during July 11th, 2019.

2. ***Dr. L. Kalaivani, Prof./EEE*** has delivered the expert lecture in a Two day TNSCST sponsored Workshop on '**MATLAB Based Mathematical applications – Hands on Training,** organized by PG and Research department of Mathematics**,** ST. Mary's College, Tuticorin during July 12th, 2019.

3. ***Dr.N.B.Prakash, Asso. Professor/EEE*** has been act as ***National Advisory Committee member*** for the 2nd International Conference on Power and Embedded Drive Control – 2019, ICPEDC-2019, organized by department of Electrical and Electronics Engineering, Sri Sivasubramaniya Nadar College of Engineering, Chennai, during the month of 21-23 August 2019.

4. ***Dr.N.B.Prakash, Asso. Professor/EEE*** has been act as a ***scientific committee member*** for the International Conference on Advances in Engineering, Technology and Contemporary Management Trends (ICAETCMT), 20th September 2019, Kathmandu, Nepal.

5. ***Mr.M.Bakrutheen, AP(SG)/EEE*** has been listed as star performer in MHRD's Innovation Cell, for organizing workshop on IPR for Students and Faculty Members through Insitution Innovaion Council.
6. ***Mr.M.Gengaraj, AP/EEE*** has been act as member for Board of Studies meeting for the department of electrical and electronics engineering, Francis Xavier Engineering College, Tirunelveli, held at 22nd July 2019.

ONLINE CERTIFICATION

COURSERA

Dr.S. Senthil Kumar
Course**: Introduction to Power Electronics**
University: **University of Colorado**

Mr. M.Sivapalanirajan
Course: **Control of mobile robots**
University: **Georgia Institute of Technology**

Mr.N.Sankar
Course**: Introduction to Power Electronics**
University: **University of Colorado**

DEPARTMENT ACTIVITIES

EEE ASSOCIATION - INAUGURAL FUNCTION

The department of Electrical and Electronics has successfully stepped into its (25st year) – Sliver Jublie of inaugural function of EEE ASSOCIATION. This markable event held on July 19, 2019 at our Auditorium, NEC by 10:00 am.

The Principal, ***Dr.K.Kalidasa Murugavel*** presided over the function. ***Mr.A. Bharathiraja, Project Manager, HCL Technologies Ltd, Chennai and our alumni*** was the Chief Guest. The Chief Guest inaugurated the function and elaborated on the recent technologies and innovation in domain areas and he insisted all the students to gain knowledge. He insisted that the upcoming engineers should have both project as well as technical knowledge. The students should ensure their potential through their technical project. He also motivated the students to read books and learn more which helps them to gain confidence.

The EEE Association Student Secretary S.Amarnath, welcomed the gathering. S.Hariharan, EEE Association student Joint Secretary, introduced the chief guest. M.Vavuniya, EEE Association student Treasurer briefed the activities to be carried in EEE Association. M.Sinduja, final year student proposed the vote of thanks. The arrangements for the inaugural function were made by ***Dr.M.Willjuice Iruthayarajan, Professor & Head, Department of Electrical and Electronics Engineering***, Staff Co-ordinator ***Mr.S.Sankarakumar, Mr.J.Antony Jeffry vaz, Ms.N.Shanmuga Nithya*** the faculty advisor of EEE Association and students.

PLACEMENT DETAILS

On behalf of the Chairman, Managing Director, Director, Principal, Head of the Department and staff members, we heartily congratulates the final year students who got placed in the Campus drive in our campus during the month of June and July 2019

TESSOLVE SEMICONDUCTOR PVT LTD, BANGALORE

ESWARI PRABHA P

KALYANARAJA J

R.SANTHIYA

SARANYA S

AMARNATH S

VVDN (VOICE-VIDEO-DATA-NETWORK), CHENNAI

ASHFAAQ MOHAMED.S.A

SIVABALAJI.L

RAMA MANIKANDAN.R.I

GANDHI MUTHU K

ZOHO CORPORATION, CHENNAI

VIJAY SANMUGAM.M

E-CON SYSTEMS CHENNAI

VAVUNIYA.M

ALUMNI ACHIEVEMENTS

Mr. S. S. Siva Shankar (Batch: 2018)

Mr. S.S. Siva Shankar, alumni of our Electrical and Electronics Engineering (Batch: 2018) has secured a GATE score of **73.67** out of 100. He has secured all India rank of **1855** out of 112097. Now he is pursuing his PG in **Indian Institute of Technology, Kharagpur.**

On behalf of EEE department we hearty appreciate and congratulate for his effort, hard work for achieving his dream.

Congratulations…

ALUMNI INTERACTION

Bharathirajaa Arumugam (2001 batch) interact with the Third year and Final Year EEE students on 19/07/2019 during the time 11.00 AM to 12.00 pm; He discussed about the company HCL Technologies Ltd. Next to that he shares his knowledge in system integrating and debugging in high speed digital and analog based board design. Then he asked about current technology to the students. Some says IOT, Machine learning, Deep learning, etc...,Then he asked some questions like "Who are interested in sports?" , "who choose sports as an career?" , Who are interested in Design , Arts ,etc..,. And he interacted with students. He shared his school life and college life to students. He said that to take our hobby as career. And also he said that he was working of 25% of what he had study.

After little discussion, one student asked the question about his college life. He answered that he was an intelligent student and ask many question to faculty, He do many mistakes in his college life, school life and His first starting salary was low. Then another student ask question about his family situation. He answered that his uncle and neighbors asked like when you go to job?, and where you go to job?.

He is an EEE Engineer, but his passion was based upon others. And he said that we have to withstand any situation in our life. Another student asked about his passion on childhood days, he replied that his passion was in photography but because of his family situation he didn't get.

Then he said that many companies test students Smartness, Knowledge, how we react to serious situation, aptitude and Reasoning skill is very important for company. Then he shared his college life that he didn't got fail mark in any subject. He came across many countries like France, Germany, Taiwan, etc..., for work. He also shared about his own company which he run in chennai and talk about his financial difficult in running the company.

Mr.Madhana Gopal (2018 passed out), now working as "Tessolve Semiconductor Pvt Ltd" at Bangalore, came to our college on 14.06.2019. He attended an interaction session with final year students.

He explained about his working nature in his company such as Ball grid Array (BGA) Co-Design Layout Services, PCB Design and PCB Services.

In that company, they provide engineering services related to Thermal Analysis Services, Signal Integrity Analysis Services, Power Integrity Analysis, System in Package and SI Thermal Analysis.

He advised the students to be skilled in their core subjects. Then he shared his own college experience and how he got this job.

Mr.S.Mohamed Sarjun (2018 passed out), came to our college on 10.06.2019. He interacted about TCS opportunity with final year students.

He explained about the recruitment procedure of the company. He advised the students to participate codevita conducted by TCS and he shared the about company work such that the wide range of information technology-related products and services including application development, business process outsourcing, capacity planning, consulting, enterprise software, hardware sizing, payment processing, software management and technology education services.

He gives the suggestions, related to the placement preparation for TCS and the struggle, he faced in the face to face interview and how to overcome it.

Ms.K.Sandhya Lakshmi **(**2019 passed out) came to our college on 17/06/2019. She was placed in TCS. She interacted with 3rd year students about TCS placement and shares her experience in the process of recruitment.

She told the students to utilize the placement training conducted by our college and gave some guidance for placement. And finally, she answering the student's questions and doubts.

STUDENTS EXPERIENCE IN INTERVIEW

- *Mr. L.SivaBalaji,*

Trainee, VVDN, Chennai

Round 1: Technical Written Test

- ***Question Pattern***
  Aptitude (15 quantitative, 5 logical reasoning), Embedded system, microprocessor and controller, C programming, Electronics and
  Quality Analysis test.
- We have to perform well in any two areas.

Round 2: Technical round-1

- According to the performance on the written test, technical rounds will be conducted.
- I had faced most of the question based on basic practical implementation skills on electronics and some for technical written test.
- I gone to general HR round after this first round.

Round 3: Technical round-2

- If the first round is not about electronics, then the second round will be the electronics.

Round 4: General HR

- Initially, they asked me to introduce myself and they interact about my family details.
- Here they tested personality whether the person is stable and confident or not.
- Then they asked me whether I had any questions or not. I had asked some questions about the company and interacted well.

- *Mr. S.A.Ashfaaq Mohamed,*

Trainee, VVDN, Chennai

Round 1 – Written test

- Quantitative aptitude - 15qns & Logical reasoning -5 qns
- System Software (Embedded system, MPMC, DLC and C programming aptitude) – 30 qns
- Electronics (LIC, EDC, Circuit theory) – 20qns
- Quality analysis (Various testing process to verify products like Bluetooth mouse, Air Conditioner etc.,) -10qns

Round 2 – Technical HR Interview

- Clarification to those problems which we have solved in Round1.
- KVL, KCL related problems.
- Transistor based questions (Eg: Characteristics of JFET).
- Characteristics of ideal R, L and C and Practical R, L and C. Specification to be considered while buying R, L and C.
- Rectifier Circuits & Centre Tapped transformer output waveform.
- Characteristics of Diodes.
- To operate relay using the signal given from the micro controller. Question from your Resume especially from the projects done.

For me Round 3 is Direct General HR Round:

- ✓ Psychological Questions.
- ✓ Situation handling.
- ✓ Family background and Details.

Your answers must be audible; it shows your confidence level. You must be honest. Do concentrate on written tests. 60% of the Technical interview questions will be asked from the written test problems.

- *Mr. R.I.Rama Manikandan,*

Trainee, VVDN, Chennai

Written test

- ✓ Quantitative Aptitude (15)
- ✓ Logical Reasoning (05)
- ✓ Embedded Systems, MPMC and DLC (30)
- ✓ Electronics (CT, EDC, LIC, DLC) (20)
- ✓ Testing (Quality Analysis) (10)

Technical Interview 1

- ✓ Address lines Calculation (MPMC)
- ✓ LED Circuit
- ✓ Transistor Sum Solving
- ✓ Relay Circuit, Schottky Diode MOSFET Equivalent Diagram

Technical Interview 2

- ✓ Solved sums from Written Exam
- ✓ KCL,KVL Questions
- ✓ Practical Questions on R,L,C
- ✓ Nature of Different Elements

Basic Understanding of Voltage & Current

HR Interview

- ✓ Self Introduction
- ✓ Hobbies & Behavioral Questions
- ✓ Situational Questions
- ✓ Family details
- ✓ Asked Queries

Note:

- ✓ Basic Knowledge on MPMC, C Programming & Embedded Systems is an added advantage.
- ✓ Written Test performance matters a lot.
- ✓ Be expressive, confident, polite and hove good eye contact.

- *Ms. P.Eswari Prabha,*

Associate Test Engineer, Tessolve, Bangalore

The on campus drive was conducted on 27th June 2019. The selection process comprised of 4 rounds. Online Exam, Technical Round 1, Technical Round 2 and HR interview.

ROUND 1

The first round in the selection process was an online examination. It comprised of 35 technical questions with multiple choice objective type questions. There was no negative marking for incorrect answers. Some of the questions were very familiar to me this made me to clear round 1 with ease.

ROUND 2

This was considered to be technical round 1. This round started with self introduction. Then I was asked to solve the questions that I missed in round 1. I was supposed to explain the question, the way I approached the question and its solution in an elaborative manner.

ROUND 3

This was considered as the technical round 2.In this round I was posted with few basics technical questions from ELECTRONIC CIRCUITS. I was asked to draw and explain the characteristics of inductor, capacitor. As time rolled on, the questions were very rapid and quite complicated. Being confident and genuine while exposing the answers is taken into consideration.

ROUND 4

It is the general HR interview. I was asked about my family background. I was clearly explained about the bond, internship period and my role in the company.

- ***Ms. S.Saranya,***

Associate Test Engineer, Tessolve, Bangalore

Round 1: Online technical MCQ

- It covers the area of circuit theory, Electronic devices and circuits, linear integrated circuits, Digital electronics.

Round 2: Technical HR-1

- In the second round some questions were asked from the online mcq.
- Also other questions were asked from my area of interest.
- This round last for above 30 minutes.

Round 3:Technical HR-2

- Similar to round 2 some questions were asked from online mcq.
- Additional questions were asked from my product and my self-introduction.
- This round took 45 minutes.

Round 4: General HR

- Before entering the general HR they asked me to fill one form which was about myself.
- Then she asked about my family details and some general questions.
- Other questions were asked based on the form which I filled.
- It took 25-30 minutes.

- ***Ms. R.Santhiya,***

Associate Test Engineer, Tessolve, Bangalore

Hello everyone. I am R.Santhiya from final EEE department . I have been selected as an Test engineer at Tessolve Semiconductor Private Limited, Bangalore. I would like to share my experience .Expectation of any core company the candidates should be assessed mostly in three subjects: “Circuit Theory” , “Digital Electronics” and “Analog Electronics”. I used the following materials :

- “Gate Matics” channel in YouTube for “Circuit Theory”.
- “Fundamental of Electric Circuits” by Charles .K.Alexander and Matthew.N.O.Sadiku for “Circuit Theory” .
- “All About Electronics” channel in YouTube for “Linear integrated Circuits”.
- “Neso Academy” channel in YouTube for “Electronic Circuits and Digital Electronics” .

The selection process of the company took 2 days. Four rounds took place in our campus. First round was a written test in online .This round comprised of 35 questions out of which 34 were technical and 1 was c programming . It’s duration was about 40 minutes. In the second round , I was asked to solve the questions which I hadn’t answered in the first round. In the Third round was a face-to-face technical interview. For me they mostly focused on the topics “Characteristics of inductors, capacitors; DAC; ADC;”. Final round was a personal interview.

TIME TO KNOW OUR ALUMNI

BHARATHIRAJA ARUMUGAM

Alumni: 2001

Department of Electrical and Electronics Engineering, NEC

Current Work Location:
Chennai-AMB-5, Amb. Ind. Estate, 73 & 74, **Email:**
bharathirajaa@hcl.com

EXPERIENCE SUMMARY

Organisation	Designation	From	To
HCL Technologies Limited	PROJECT MANAGER	22 Feb 2006	Till Date
NEST R& D CENTRE	R& D ENGINEER	27 Dec 2005	18 Feb 2006
DATA PATTERNS INDIA P LTD	DESIGN ENGINEER	02 Aug 2004	19 Dec 2005
SANDS	R& D ENGINEER	12 Mar 2003	17 Jul 2004

EDUCATION

Degree/Certificate	Discipline	Institute/University	Year of Passing
Post Graduation - ME/MTech	Instrumentation & Control	ANNA UNIVERSITY	30 Dec 2002
Graduation - BE/BTech	Electrical and Electronics Engineering - National Engineering College	MANONMANIAAM SUNDARANAR UNIVERSITY	30 Apr 2001

PROJECT DETAILS

Project	RC MPU QRM
Duration	22 Jun 2012-30 Sep 2012
Team Size	6
Role/Position	Technical Manager
Project Description	Media Player Unit is the Client Centric in flaight entertainment system. Content for the media player can be stored locally and traffic on the main system can be reduced. Also use can view their content through USB, HDMI as well.
Technical Environment	Digital board design and testing
Responsibilities	Electrical HW team co-ordination, design, development, testing and delivery of the unit

STUDENT ARTICLES

TRANSPARENT SMARTPHONE

If you need to ask why you would need a transparent smartphone, you probably don't really need one. After all, not only would it be hard to find, particularly if transparent when powered down, but others could easily see exactly what you are working on. It is only when you take a step back that you realize that the state of being non-transparent, or opaque, is the weaker condition. If by nature you possess transparency, opacity can be just another option under a menu, while the converse is clearly not true. The real power once you have it, is not just that you get opacity for free, it is that you get everything else in between. A prototype device being developed by Polytron Technologies from Taiwan, pictured above, shows some of the challenges to making the transparent smartphone a reality.

If you need to ask why you would need a transparent smartphone, you probably don't really need one. After all, not only would it be hard to find, particularly if transparent when powered down, but others could easily see exactly what you are working on. It is only when you take a step back that you realize that the state of being non-transparent, or opaque, is the weaker

condition. If by nature you possess transparency, opacity can be just another option under a menu, while the converse is clearly not true. The real power once you have it, is not just that you get opacity for free, it is that you get everything else in between. A prototype device being developed by Polytron Technologies from Taiwan, pictured above, shows some of the challenges to making the transparent smartphone a reality.

For larger creatures, like smartphones, there are a host of effects that arise to oppose transparency. The lens of the eye for example, needs to burn a non-trivial amount of energy just to maintain transparency. To make a large scale device transparent, the first thing you need is transparency of the smaller parts that comprise them. While this appears rather obvious, it is not enough just to put transparent parts together. The more difficult requirement you need is to have a smooth variation in the refractive indexes across the subcomponents. Fireflies, which we have discussed before, can efficiently emit light through their bodies only by optimizing each interphase in the light path as the different tissues are traversed.

There are many kinds of transparent display options available today, and new methods are being developed all the time. One way to do this is to coat two pieces of glass with transparent but conductive material like indium tin oxide (ITO), and sandwich a gel of polarizable molecules between them. When an electric field is applied, the liquid crystal changes its alignment and becomes transparent or nontransparent, depending on the materials used. The display is not the problem for the Polytron phone which sports an OLED-based liquid crystal device. The problem is several of the smaller components, like the battery and the memory. Transparent lithium-ion batteries have previously been developed based on PDMS. PDMS is a favorite polymer material often used in the life sciences to build transparent microfluidic sensors and Polytron plans to incorporate these kinds of batteries in future versions of the phone. They will also start using transparent speakers and touchscreens on both sides of the final product. (See: MIT startup makes transparent solar panel that will allow your smartphone to power itself.)

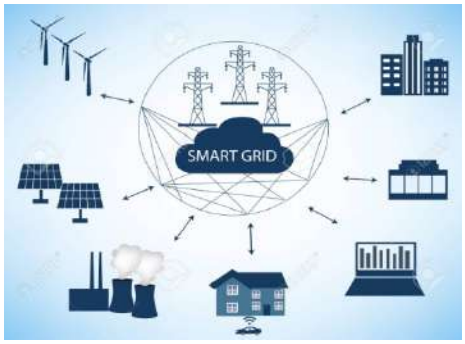
- ***Mr. M.Rajagopalaswamy, Second EEE***

SMART GRID

INTRODUCTION: It is an electrical grid that uses information and communication technology to gather data and act on information about the Behaviour of suppliers and consumers in an automated fashion. Smart grid delivers electricity to consumers using two-way digital technology that enable the efficient management of consumers, efficient use of the grid to identify and correct supply- demand imbalance.

SMART GRID DOMINE- GENERATION: Wide-area measurement system (WAMS) enabled by communication technologies need to be used to control the operation of the generating stations. WAMS based power system stabilizer is one such example. Communication infrastructure needs to be in place between the generating facilities and the system operator, electricity market, and the transmission system.

SMART GRID DOMAIN- TRANSMISSION: Energy-efficient transmission network will carry the power from the bulk generation facilities to the power distribution systems. The power flow and voltage on the lines need to be controlled in order to maintain stable and secure operation of the system. An important task of the system operator is to ensure optimal utilization of the transmission network, by minimizing the losses and voltage deviations, and maximizing the reliability of the supply.



SMART GRID DOMAIN – DISTRIBUTIONS:
Substation automation and distribution automation will be the key enablers for the smart distribution systems. Distribution system operator typically controls the distribution system remotely. Communication infrastructure to exchange information between the substations and a central distribution management system therefore should be in place.

ADVANCED COMPONENTS AND CONTROL METHODS IN SMART GRID : High temperature operation, increased amperage, reduced sag. Examples: Aluminum Conductor Composite Core (ACCC™) Cable, trapezoid cross section conductor wire ,etc.., Advanced microelectronics, better control for the generators.

CONCLUSION:

- Smart Grid is characterized by the integration of communication networks and IT infrastructure with the power and energy layer. It increasing the distance between the generation site and load centers. Capable of meeting increased consumers demand without adding infrastructure.

Ms. T.Aarthi, Third Year

TECHNICAL ARTICLE – STAFF MEMBERS

HUMANOID ROBOTS – A REVIEW

Mr.M.Sivapalanirajan
Assistant Professor
Electrical and Electronics Engineering

Robotics is the engineering science and technology which involves the conception, design, operation and manufacture of robots. In the year 1921, the Czech dramatist "Karel Capek" coins the world by using the word robot in his play Rossum's Universal Robots (R.U.R). This word robot is derived from a Czech word which means "compulsory labor." It is a multidisciplinary design involves electronics, mechanics and software to be integrated together to make perfect robotics. now humanoid robots that replicates human behaviour, emotions and expressions is the new trend gripping business and society which are used for various dirty, dull and dangerous jobs.

History:

Though robots are regarded as a 20th century discovery, their origins lie in the far history. From the initial time, public have shaped myths regarding automatic beings built-in their individual likeness with extraordinary human powers. The prehistoric age around 270BC Greeks & Egyptians manufactured mechanical machines to execute easy tasks. In modern times, automatic toys amuse and ever more complex machinery was invented.[1]

The thought of a realistic motorized humanoid monster named as "Frankenstein" in the year 1818 surveys what occurs when a man-made giant is gifted life by a knowledgeable scientist (Dr. Frankenstein). As the advancement in the computer technology progressed at a great pace, scientists became more fascinated in construction of intellectual machines that can ultimately have some logic to work themselves. In the year 1942, "Runaround" was composed by Asimov about robots, it held the "Three rules for robots"

- Robots are not harmful to the humans, or through working, permit a human to come and damage.
- A robot must follow the commands given by human beings apart from where such instructions would conflict with the First Law of Robotics.
- A robot must defend its own survival providing such safety does not clash with the First and the Second Law of Robotics.

In 1956, George Devol and Joseph Engelberger established the first robot company. In 1959, computer assisted manufacturing was verified at MIT. In 1961, UNIMATE- The first industrialized robot was online in a General Motors automobile plant. In 1963 was a revolutionary year, first computer controlled robotic arm was designed and it was named as Rancho Arm. The invention was basically for the handicapped peoples. The inventions in the

field of Robotics were never ending and gave human beings a sudden surprising gift as & when launched.

Design of robots:

In order to design the robot with human behavior, kinematics of joints has to be modeled in correlation with human beings. The dynamics of robotic movement has to be designed mathematically. The arm and limb of robot is considered as the joints with two or three possible directions which is called as DOF (degree of freedom). As per literature [2], [3] a "humanoid robot zero" was modeled with the DOF stated in figure 1. The kinematics and dynamics has to be modeled properly to represent it as a mathematical model.

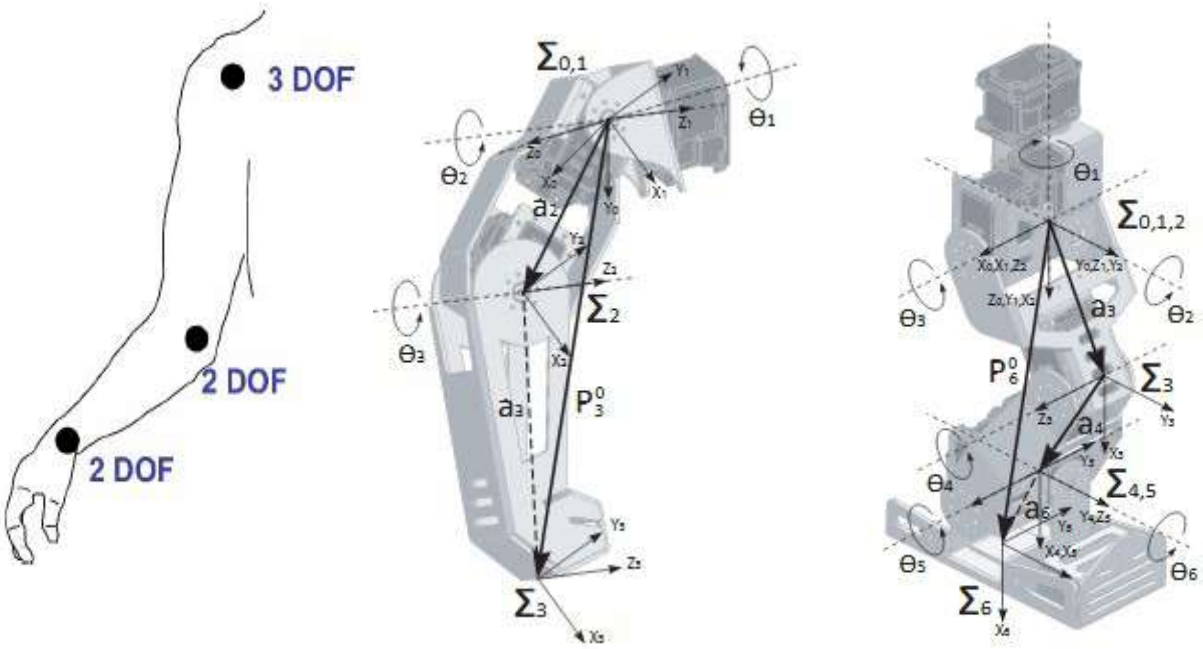


Fig 1 a.DOF of arm, b. kinematics of arm c. kinematics of leg

Similarly fingers and another critical parameters to design mathematically as the joints are of different types like hinge, saddle and ellipsoidal. So direct replacement of motors may not be meaningful to mimics the actual human motion. This is practically implemented by the concept redundancy manipulator [2]. The flexibility provided by human fingers are mimicked by the three finger exoskeleton model as in figure 2.

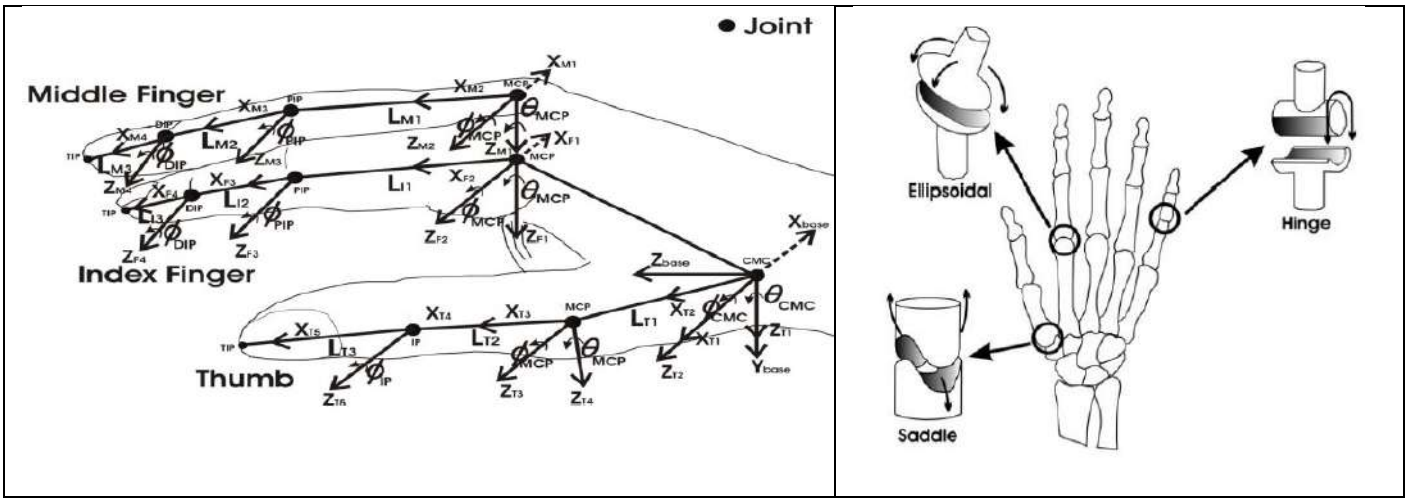


Fig 2 a. kinematics of fingers, b. different joints of human arm

Such regorous research paved the way for the modelling and control of robotics. the controller design for robotics is another wide are of research which focus on online data processing and response to the real life situations. Hence the service of robot in real life is been incorporated shortly in our day today life.

Latest development in Humanoid robots:

- **Sophia** is a social humanoid that was covered by media around the globe and it participated in many high-profile interviews. In October 2017, Sophia became the first robot to receive citizenship of any country. In November 2017, Sophia was named the United Nations Development Programme's first ever Innovation Champion, and is the first non-human to be given any United Nations title.
- ASIMO (Advanced Step in Innovative Mobility) is a robot that stands 3' tall and is essentially a combination of an iPod and a space suit. It has a variety of sensors to monitor its 57 degrees of freedom, not including its hands. This humanoid robot can walk up and down the stairs, manipulate objects, and even pick them up. In fact, it was the first robot to demonstrate that it could "run" at approximately 3.7 miles an hour. It also responds to voice commands, identifies hand gestures, synthesizes speech, and can move based on noises.
- PETMAN (Protection Ensemble Test Mannequin) was originally developed to test hazmat suits for military personnel. It demonstrates how a real soldier would need to wear protective clothing in realistic situations.
- ATLAS is essentially the next generation of PETMAN that was designed for search and rescue efforts. It has laser rangefinders, stereo cameras, and articulate hands. It appear as human because of the sheer amount of hardware needed to make the humanoid robot operate, but it is still an impressive piece of technology. It could walk on snow, pick up boxes, and get up by itself after falling down

- **NAO** can teach social skills and are a useful teaching tool for educating others on robots and robot technology. You can also program them to dance to music.

Reference:

1. https://www.elprocus.com/robots-types-applications/
2. M. F. Orlando ; H. Akolkar ; A. Dutta ; A. Saxena ; L. Behera , "Optimal design and control of a hand exoskeleton", IEEE Conference on Robotics, Automation and Mechatronics, 28-30 June 2010.
3. Efra´ ın Hern´andez and Ramiro Vel´azquez, "Design and Development of Humanoid Robot ZERO", DOI: 10.1109/LARC.2011.6086801
4. https://www.analyticsinsight.net/the-coolest-humanoid-robots-you-have-to-see-to- elieve/

STUDENTS ACTIVITIES – ACADEMIC YEAR (2018 – 2019)

INPLANT TRAINING

Sl.No.	Students Name	Reg. No.	Branch	Company Name	IPT DATE
1	J.Ramesh Kumar	1713091	II EEE	M/s.NTPL, Tuticorin	08.04.2019 to 12.04.2019
2	C.Mugesh	1713074			
3	M.Dineshkumar	1713026			
4	R.Karthick	1713052			
5	S.Praveen kumar	1713085			
6	Dhanabalraj	1713023	II EEE	M/s. NLC Tamilnadu Power Limited	08.05.2019 to 14.05.2019
7	Joel Praveen kumar.D	1713044			
8	Kaliraj.M	1713050			
9	Tamilselvan.S	1713112			
10	S.Balasundaram	1713018	II EEE	M/s.Vijayalakshmi Home Appliances, Coimbatore.	08.05.2019 to 24.05.2019
11	M.Ajithkumar	1713005			
12	A.N.Vinith	1713119			
13	P.Pon Ganesh	1713083	II EEE	M/s.Associated Transformers Pvt Ltd, Dindigul.	10.05.2019 to 17.05.2019
14	K.Santhosh	1713096			
15	A.Perumal Samy	1713082			
16	E.Bharathan	1713020			
17	C.Mariappan	1713066			
18	Boominathan.R	1713022			

19	Ganesh Kumar.M	1713029	II EEE	M/s.BINDHU ENGINEERING INDUSTRIES Andakappalayam,Vellaianpatti	11.05.2019 to 28.05.2019
20	Vignesh.K	1713118			
21	Gopinath.L	1713032			
22	Blessing.S	1713021			
23	S.Pavithra	173081	II EEE	B.S.N.L.Tirunelveli	13.05.2019 to 17.05.2019
24	M.Muthusaranya	1713076			
25	R. Ponkarthika	1713084			
26	A. Pricilla Infansa	1713087			
27	A. Siva Priya	1713102			
28	G.M.Gowthaman	1713034	II EEE	M/s.NTPL,Tuticorin	13.05.2019 to 17.05.2019
29	J.Jashva Sherin	1713040			
30	A.Harish Kumar	1713037			
31	M.Partha Sarathy	1713080			
32	A.Maria Joevin	1713065			
33	S.S.Mohamed Ibrahim	1713071	II EEE	M/s.Riyasaa Labs - A center for IoT Nagercoil	13.05.2019 to 25.05.2019
34	N.M.Seyad Ibrahim	1713100			
35	M.K.Mohamed Eliyas	1713070			
36	T.M.Azeez Rahuman	1713016			
37	M.Selvakumar	1713097			
38	S.Karthikeyan	1713054	II EEE	Bharat Heavy Electricals Limited, (HPBP & SSTP) Thiruverumbur, Tirchy – 620014	15.05.2019 to 25.05.2019
39	R.Sanjaii Rohan Singh	1713095	II EEE	M/s.Vijayalakshmi Home Appliances, Coimbatore.	16.05.2019 to 30.05.2019
40	K.Anandamoorthy	1713008			
41	K.Gangagowtham	1713030			
42	M.Suguna	1713108	II EEE	Tamilnadu Electricity Board Maharaja Nagar,Sivanthipatti Road, Palayamkottai	20.05.2019 to 24.05.2019
43	S.Subalaxmi	1713107			
44	M.Maheswari	1713405			
45	M.Madhumitha	1713062			
46	A.Aravind	1713013	II EEE	M/s.The India Cements,	20.05.2019 to 25.05.2019
47	B.Akash Kumar	1713006			

				Sankarnagar	
48	R.Raja Deepak	1713088			
49	K.T.Sreedhar	1713413	II EEE	Kerala State Electronic Development Corporation, Thiruvananthapuram.	20.05.2019 to 26.05.2019
50	S.Vishnu	1713415			
51	P.Ramar Ananth	1713412			
52	S.Praveen Kumar	1713409			
53	A.Prince	1713410			
54	N.Akash Sasi	1713401			
55	K.Ayyadurai	1713402			
56	A.Sribala Krishnan	1713103			
57	C.Kartikeyan	1713404			
58	S.Praveen Kumar	1713085	II EEE	Dharangadara Chemical Works,Saghupuram	27.05.2019 to 31.05.2019
59	T.Ram Mohan	1713090			
60	M.Thirumalaikumarasamy	1713113	II EEE	Tamilnadu Electricity Board,Tirunelveli	*27.05.2019 to 31.05.2019*
61	Niferlin.R	1713077	II EEE	Tamilnadu Electricity Board,Tirunelveli	*27.05.2019 to 31.05.2019*
62	S.T.Bala Akalya	1713017	II EEE	SM Marains Advanced Gear Boxs India Pvt.Ltd. Nagercoil	Semester Holidays
63	K.Adchaya	1713002			
64	S.Karthikeyan	1713054	II EEE	Tamilnadu Newsprint paper Limited,(Unit-II Manaparai.	Semester Holidays
65	S.Joy Jacob Charles	1713047			
66	V. Benisha	1713019	II EEE	Tamilnadu Electricity Board Maharaja Nagar,Sivanthipatti Road, Palayamkottai	Semester Holidays
67	M.Arunarani	1713015			
68	M.Ananthi	1713009			
69	A.kavitha	1713056	II EEE	Tamilnadu Electricity Board,Palayamkottai	Semester Hoildays
70	P.Menaga Devi	1713068			
71	P.Monika	1713407			
72	S.Mahalakshmi	1713064			

73	M.Aruna	1713014			
74	S.T.Bala Akalya	1713017	II EEE	B.S.N.L.Nagercoil	Semester Hoildays
75	K.Adchaya	1713002			
76	S.Nambi rajan	1413070	III EEE	Protection & Communication/Tan Transco, Tamilnadu Electricity Board,Madurai	01.05.2019 to 05.05.2019
77	Rama Narayanan@ Ramesh	1413088			
78	A.Sankara Narayanan	1413095			
79	R.S.Prem kumar	1413081			
80	T.Sathish	1413097			
81	R.Selvakumar	1713097	II EEE	M/s.Riyasaa Labs - A center for IoT Nagercoil	13.05.2019 to 25.05.2019
82	S.Surdish Muthu	1713109			
83	A.Aravind	1713013	III EEE	M/s.The India Cements Ltd, Tirunelveli	20.05.2019 to 25.05.2019
84	B.Akash Kumar	1713006			
85	S.Jayaram	1713041			
86	Lavanya Narayani.T	1713060	II EEE	U.N.I.Q Technologies	26.05.2019 to 30.05.2019
87	Keerthika.B	1713057			
88	Sharmila.S	1713101			
89	Gomathi Prabhaa.J	1713031			
90	Janani.B	1713039			
91	Raja Kumari.L	1713089			
92	Anisha Subhasree.U	1713012	II EEE	Saavic Technologies	12.11.2018 to 01.12.2019
93	Dhanushiya.K	1713024	II EEE	Barola Technologies	21.05.2019 to 27.05.2019
94	Amaravathi.M	1713007			
95	Surya Ambika.P	1713110	II EEE	NSIC Chennai	29.05.2019 to 02.06.2019
96	Menaka.M	1713069			
97	Angelin Anu Abraham.T	1713011			
98	Dharshini.R	1713025			
99	Swetha.K	1713111	II EEE	BSNL	21.05.2019 to 26.05.2019
100	Angelin Anitha.D	1713010	II EEE	BSNL	25.05.2019 to 30.05.2019
101	Angelin Anitha.D	1713010	II EEE	Eminent Technology solutions	15.04.2019 to 20.04.2019

102	Aiswarya.M	1713003	II EEE	Mission Technologies	27.05.2019 to 31.05.2019
103	Iswarya.S	1713038	II EEE	K.G.S/K.T.V	14.05.2019 to 17.05.2019
104	Karthikeyan.S	1713054	II	NSIC Chennai	19.11.2018 to 27.11.2018
105	Joseph Francis.S	1713046			
106	Jose Vishal.I	1713045			
107	Ganapathy Subramaniyan.S	1713027	II EEE	NSIC Chennai	12.05.2019 to 24.05.2019
108	Gandhiram.P	1713028			
109	Gowsalya.V	1713033	II EEE	Code Bind Technologies	17.05.2019 to 21.05.2019
110	Gomathi Prabhaa.J	1713031			
111	Vathsalapriya.K	1713115			
112	Janani.B	1713039	II EEE	B.S.N.L, Tirunelveli	13.05.2019 to 17.05.2019
113	T.Ajith kumar	1613402	III EEE	M/s.Electric Loco Shed Railways,Erode	Semester Holidays
114	S.Arockia Ranjith Kumar	1613403			
115	M.Gowthamaraj	1613406			
116	M.Mariselvam	1613053			
117	G.Gailai Nathan	1613026	III EEE	Tamilnadu Electricity Board Maharaja Nagar,Sivanthipatti Road, Palayamkottai	Semester Holidays
118	P.Ponselvakumar	1613074			
119	S.Dhanush	1613024			
120	R.Abilash Pandian	1613401			
121	P.Abdul Rahim	1613003			
122	M.Subaragavan	1613103			
123	K.Cherma Jeya	1613022	III EEE	Tamilnadu Electricity Board,Tirunelveli	27.05.2019 to 31.05.2019
124	M.Leela Nivashini	1613044			
125	V.Iswarya	1613032			
126	K.Subash	163012	III EEE	M/s. Kerala State Electronic Development Corporation,Triruvanathapuram.	20.05.2019 to 27.05.2019
127	A.Mahadevan	163073			
128	S.Manikumar	163062			
129	G.Manibharathi	163061			
130	P.Eswari Prabha	1613025	III EEE	Tamilnadu State Transport	27.05.2019 to 31.05.2019

				Corporation,	
131	M.Aarthi Lakshmi	1613001		Tirunelveli	
132	K.Subbiah Kumar	1613106	III EEE	Tuticorin Thermal Power Station, Tuticorin.	20.05.2019 to 24.05.2019
133	S.Vigneshwaran	1613117			
134	A.Suresh Kumar	1613412			
135	P.Subash Raja	1613105			
136	P.Pio	1613072			
137	C.Vignesh	1613415			
138	V.Vasanth	1613112			
139	A.G.Naveen Kumar	1613065	III EEE	Tuticorin Thermal Power Station, Tuticorin.	20.05.2019 to 24.05.2019
140	T.Neelakandan	1613066			
141	M.Ranjith King Jimson	1613081			
142	R.Solai Prakash	1613099			
143	R.Siva Sornaram	1613096			
144	M.K.Vijayanainar	1613416			
145	S.Kowsalya	1613042	III EEE	Sivaganga Electricity Distribution Circle, Sivaganga.	27.05.2019 t0 31.05.2019
146	Abirami. M	1613005			
147	S.Meenakshi	1613055	III EEE	Tuticorin Thermal Power Station, Tuticorin.	13.05.2019 to 17.05.2019
148	N.Nivetha	1613059			
149	A.Poorna Pushkala	1613076			
150	V.Rama @ Ramalakshmi	1613410			
151	A. Mythile	1613063			
152	S. Pavithra	1613071			
153	S.Saranya	1613088			
154	A.Priyadarshini	1613077			
155	S.Amritha	1613009	III EEE	Tamilnadu Electricity Board,Virudhunagar	13.05.2019 to 18.05.2019
156	P.Abinaya	1613004			
147	Logeswarabalan.K	1613045	III EEE	NSIC Chennai	20.04.2019 to 30.04.2019
148	Mafin Rijoe.M	1613047			
149	Nalla Selva Prakash.V	1613064			
150	Siva Sankar.P	1613095			
151	Vasanthan.R	1613113			
155	Krishnakumar.K	1613043	II EEE	Chiranjeevi Wind Energy, Aralvaimozhi	16.05.2019 to 30.05.2019
	P.Muthupattan	1613409			
156	Selva Kumar.E	1613411			

147	Arunkumar.R	1613014	III EEE	Keltron (Kerala state Electronic Development)	20.05.2019 to 26.05.2019
148	Kalyanaraja.J	1613034			
152	Karthick.S	1613037			
153	Pitchai Kumar Arun.R	1613073			
154	Pandaravel Kannan.M	1613070			
147	M.Murugan	1613408	III EEE	DARE, Bangalore	13.05.2019 to 31.05.2019
148	Ramkumar.P	1613080			
152	Rama Manikandan.R.I	1613079			
153	Amarnath.S	1613008			
154	Ashfaaq Mohamed.S.A	1613015			
147	Arun.G	1613013	III EEE	CVRDE, DRDO, Chennai	13.06.2019 to 17.06.2019
148	Varatharajan.M	1613413			
153	Sivabalaji.G	1613097			
154	Shunmuga Sundaram.K	1613092			

STUDENTS INTERNSHIP DETAILS

S.NO	Name	Reg No	Branch & Year	Company Name	Date of Internship
1	M.Menaka	1713069	EEE & II	M/s.Salcomp Manufacturing India Private Limited,Sriperumbudur.	27.05.2019 to 01.06.2019
2	R.Dharshini	1713025			
3	P.Surya Ambika	1713110			
4	T.Angelin Anu Abraham	1713011			
5	S.Amarnath	1613008	EEE & III	M/s. Defense Avionics Research Establishment,Bangalore	13.05.2019 to 31.05.2019
6	P.Ramkumar	1613080			
7	M.Murugan	1613408			
8	R.I.Ramamanikandan	1613079			
9	S.A.Ashfaaq Mohamed	1613015			
10.	S.Hariharan	1713035	EEE & II	L & T Infotech, Mumbai	10.05.2019 to 03.06.2019

PRESS CLICKS

தூத்துக்குடி தூய மரியன்னை கல்லூரியில் கணித மென்பொருள் பயிலரங்கம்

தூத்துக்குடி, ஜூலை 12: தமிழக உயர் கல்வித் துறை, தமிழ்நாடு அறிவியல் தொழில்நுட்ப மாநில மன்ற நிதியுதவியுடன், தூத்துக்குடி தூய மரியன்னை கல்லூரியில் கணித பயன்பாட்டுக்கான மென்பொருள் குறித்த இரண்டு நாள் பயிலரங்கம் வியாழக்கிழமை தொடங்கி இரண்டு நாள்கள் நடைபெற்றது.

கணிதத் துறை சார்பில் நடைபெற்ற இப்பயிலரங்கை, கல்லூரி முதல்வர் லூசியா ரோஸ் தலைமை வகித்துதொடங்கிவைத்தார். துணை முதல்வர் ஷிபானா முன்னிலைவகித்தார்.

கோவில்பட்டி நேஷனல் பொறியியல் கல்லூரியின் மின்னியல் மற்றும் மின்னணுவியல் துறைத் தலைவர் வில்ஜூஸ் இருதயராஜன், பேராசிரியை கலைவாணி ஆகியோர் மென்பொருள் பயன்பாடு குறித்து மாணவிகளுக்கு பயிற்சியளித்தனர்.

பயிலரங்கில் பேசுகிறார் கோவில்பட்டி நேஷனல் பொறியியல் கல்லூரி மின்னியல் மற்றும் மின்னணுவியல் துறைத் தலைவர் வில்ஜூஸ் இருதயராஜன்.

கல்லூரியின் கணிதத் துறைத் தலைவர் புனிதா தாரணி, உதவிப் பேராசிரியை அருள் ஜெஸ்டி மற்றும் கணிதத் துறை மாணவிகள் கலந்துகொண்டனர்.

Dr.M.Willjuice Iruthayarajan, Professor and Head delivered guest lecture at St. Mary's College, Tuticorin

EEE Association Inaugural – Press and Publicity

நேஷனல் பொறியியல் கல்லூரியில் மின்னியல் மற்றும் மின்னணுவியல் துறை கூட்டமைப்பின் துவக்க விழா

கோவில்பட்டி, ஜூலை.20-

கோவில்பட்டி நேஷனல் பொறியியல் கல்லூரி, மின்னியல் மற்றும் மின்னணுவியல் துறையின் 2019-20 கல்வியாண்டிற்கான மின்னியல் மற்றும் மின்னணுவியல் துறை கூட்டமைப்பின் துவக்க விழா கல்லூரி வளாகத்தில் நடைபெற்றது.

கூட்டமைப்பு துவக்கம்

மின்னியல் மற்றும் மின்னணுவியல் துறை கூட்டமைப்பின் மாணவ செயலாளர் நான்காம் ஆண்டு மாணவர் அமர்நாத் வரவேற்றார். இவ்விழாவிற்கு கல்லூரி முதல்வர் கே.காளிதாச முருகவேல் தலைமை வகித்தார். சென்னை, ர்ஜூடு தொழில்நுட்பம் பிரைவேட் லிமிட்டெட் திட்டப்பணி மேலாளரும், கல்லூரியின் முன்னாள் மாணவருமான பாரதிராஜா ஆறுமுகம் சிறப்பு விருந்தினராக கலந்து கொண்டு விழாவினை துவக்கி வைத்து கல்லூரி நாட்களில் மாணவர்கள் அனைவரும் தங்களால் முடிந்தவரை புதுமைகளை கற்றுக் கொள்ள வேண்டும் என்று கேட்டுக்கொண்டார். வருங்கால பொறியாளர்கள் தங்களுடைய தொழில்நுட்ப விஷயங்களிலும், திட்டப் பணிகளிலும் சிறந்த மேற்பார்வையாளராக உருவாக வேண்டும் என அறிவுறுத்தினார்.

மேலும் அவர் அனைத்து மாணவர்களையும் கடினமாக உழைத்து சமுதாயத்தில் சிறந்து விளங்குமாறு கேட்டுக்கொண்டார். மூன்றாம் ஆண்டு மாணவர் ஹரிஹரன் சிறப்பு விருந்தினரை அறிமுகம் செய்தார்.

இறுதி ஆண்டு மாணவி வவுவியா மின்னியல் மற்றும் மின்னணுவியல் துறையின் செயல்பாடுகள் மற்றும் மேற்கொள்ளப்பட வேண்டிய நடவடிக்கைகள் குறித்து விளக்கினார். நான்காம் ஆண்டு மாணவி சிந்துஜா நன்றியுரை ஆற்றினார்.

விழாவின் ஏற்பாடுகளை மின்னியல் மற்றும் மின்னணுவியல் துறைத்தலைவர் வில்ஜூஸ் இருதயராஜன், ஒருங்கிணைப்பாளர் மற்றும் துணை பேராசிரியர்கள் சங்கரகுமார், அன்டனி ஜெபிரிவாஸ், சண்முக நித்யா மற்றும் மாணவர்கள் சிறப்பாக செய்திருந்தினர்.

கோவில்பட்டி நேஷனல் கல்லூரியில்

மின்னணுவியல் துறை கூட்டமைப்பு துவக்க விழா

கோவில்பட்டி, ஜூலை 21: கோவில்பட்டி நேஷனல் பொறியியல் கல்லூரியில் மின்னியல் மற்றும் மின்னணுவியல்துறை 2019-20 ஆண்டுக்கான கூட்டமைப்பு துவக்க விழா நடந்தது. நிகழ்ச்சிக்கு கல்லூரி முதல்வர் காளிதாசமுருகவேல் தலைமை வகித்தார். கூட்டமைப்பின் மாணவர் தலைவர் அமர்நாத், ஹரிஹரன் வரவேற்றனர். மாணவி வவுனியா துறை செயல்பாடுகளை விளக்கினார். சிறப்பு விருந்தினராகப் பங்கேற்ற சென்னை ஹெச்சிஎல் தொழில்நுட்ப நிறுவன திட்ட பணி மேலாளர் பாரதிராஜா, விழாவைத் துவக்கிவைத்துப் பேசினார். மாணவி சிந்துஜா நன்றி கூறினார்.

ஏற்பாடுகளை மின்னியல் மற்றும் மின்னணுவியல் துறை தலைவர் வில்ஜூஸ் இருதயராஜன், ஒருங்கிணைப்பாளர்கள் சங்கரகுமார், அண்டனி ஜெபிரிவாஸ், சண்முகநித்யா செய்திருந்தனர்.

கோவில்பட்டி நேஷனல் பொறியியல் கல்லூரியில் மின்னியல் மற்றும் மின்னணுவியல் துறை கூட்டமைப்பு துவக்க விழா நடந்தது.

மின்னியல் கூட்டமைப்பு தொடக்கம்

கோவில்பட்டி : கோவில்பட்டி நேஷனல் பொறியியல் கல்லூரியில் மின்னியல் மற்றும் மின்னணுவியல் துறை கூட்டமைப்பின் தொடக்க விழா நடந்தது. கூட்டமைப்பின் மாணவ செயலாளர் அமர்நாத் வரவேற்றார். கல்லூரி முதல்வர் கே.காளிதாச முருகவேல் தலைமை வகித்தார். சென்னை ஹெச். சி.எல். தொழில்நுட்ப நிறுவன திட்டப்பணி மேலாளர் பாரதிராஜா ஆறுமுகம் விழாவை தொடங்கி வைத்தார்.

மாணவி வவுனியா மின்னியல் மற்றும் மின்னணுவியல் துறையின் செயல்பாடுகள் குறித்து விளக்கினார். மாணவி சிந்துஜா நன்றி கூறினார். ஏற்பாடுகளை மின்னியல் மற்றும் மின்னணுவியல் துறைத் தலைவர் வில்ஜூஸ் இருதயராஜன், ஒருங்கிணைப்பாளர் மற்றும் துணை பேராசிரியர்கள் சங்கரகுமார், அண்டனி ஜெபிரி வாஸ், சண்முக நித்யா செய்திருந்தனர்.

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