ELECTREE

MAGAZINE

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ELECTRICAL
&
ELECTRONICS
ENGINEERING

St. JOHNS COLLEGE OF ENGINEERING & TECHNOLOGY
Accredited by NAAC, Approved by AICTE, Recognized by UGC under 2(f) & 12(B), An ISO 9001:2015 Certified Institution and Affiliated to JNTUA, Anantapuramu
Estd: 2001
Yerrakota, YEMMIGANUR - 518360, Kurnool Dt., Andhra Pradesh.
Counseling Code: JONY

From the Management

Sri. A.V. RAMANA REDDY

It is always a pleasure to be a part of a team which strives to bring out the talents of students and staff. Electrical and Electronics department of St. Johns College of Engineering & Technology has always been striving to keep itself ahead of the competition. The essential purpose of a magazine is to inform, engage, inspire and entertain a diverse readership including alumni, parents, students, faculty, staff and other friends of the college by telling powerful stories that present a compelling, timely and honest portrait of the college and its extended family. This magazine has made an earnest attempt in this direction and brought out certain aspects to the eyes of the public so that they may understand and know the EEE department even better.

Sri. K. PARVATH REDDY

Being part of a team dedicated to showcasing the talents of our students and staff is always a pleasure. The Electrical and Electronics Engineering (EEE) Department at St. Johns College of Engineering & Technology consistently strives to lead in excellence and innovation. Our magazine's core mission is to inform, engage, inspire, and entertain a broad audience, including alumni, parents, students, faculty, staff, and other friends of the college. We aim to share powerful stories that offer a compelling, timely, and honest depiction of the college and its vibrant community. This publication has made a sincere effort to highlight various facets of the EEE department, bringing them to the public's attention to enhance their understanding and appreciation of our department's achievements and initiatives.

Sri. K. RAMPULLA REDDY
DIRECTOR

Smt. K. ANASUYA
DIRECTOR

It's a privilege to be part of a team that works to highlight the talents of our students and staff. The Electrical and Electronics Engineering (EEE) Department at St. Johns College of Engineering & Technology continually strives to stay at the forefront of excellence. Our magazine is designed to inform, engage, inspire, and entertain a wide-ranging audience, including alumni, parents, students, faculty, staff, and other friends of the college. We aim to tell impactful stories that provide a compelling, timely, and authentic portrayal of the college and its extended community. This issue has sincerely endeavored to bring various aspects of the EEE department into the spotlight, helping the public gain a deeper understanding and appreciation of our department's endeavors and accomplishments. Through articles, interviews, and features, we aim to capture the spirit of innovation and dedication that defines our department. We believe that by sharing these stories, we can foster a stronger connection within our community. We hope you find this magazine both informative and inspiring as it reflects the hard work and creativity of our EEE department. Your support and feedback are invaluable to us, and we encourage you to share your thoughts. Together, we can continue to drive progress and celebrate the achievements of our remarkable community.

From the Principal

Dr. V. Veeranna

It is always a pleasure to be a part of a team which strives to bring out the talents of students and staff. Electrical and Electronics department of RVR&JC College of Engineering has always been striving to keep itself ahead of the competition. The essential purpose of a magazine is to inform, engage, inspire and entertain a diverse readership including alumni, parents, students, faculty, staff and other friends of the college by telling powerful stories that present a compelling, timely and honest portrait of the college and its extended family. This magazine has made an earnest attempt in this direction and brought out certain aspects to the eyes of the public so that they may understand and know the EEE department even better.

From the HOD of EEE

Dr. K. Chithambaraiah Setty

I am delighted to recognize the high quality and taste of the magazine produced by our EEE department. Heartfelt congratulations to the entire editorial team for their exemplary work. It has been a great pleasure to read the remarkable contributions made by our students.

This magazine serves as a platform to uncover the hidden literary talents of our students and to nurture leadership skills among them. It is encouraging to see the diverse range of topics covered and the creativity displayed in each piece. The dedication and hard work of the editorial team and contributors are truly commendable.

ABOUT THE DEPARTMENT:

The Electrical & Electronics Engineering Department was established in the year 2001 with an intake of 60. The Department has qualified, dedicated, experienced and trained faculty with deep sense of commitment towards the Students and Institution .the Department of Electrical & Electronics Engineering is dedicated to the current needs of industry with the flexibility to tune its programmes according to different requirements. Application of new technology in various fields is one of the main focuses in the activities of the department. Develop skilled engineers to meet industry needs and hence develop responsible citizens for our country and society.

The use of electricity is fundamental to modern life and without a secure supply, society in its current form would collapse. Consequently, the importance of efficient and sustainable generation, secure distribution, and intelligent user devices cannot be overstated. This will be a lifetime challenge facing the next generation as traditional sources of energy will run out and new ways of generating, distributing and using electricity must be sought. Electrical and Electronic Engineers have a vital role in addressing this challenge.

Infrastructure facilities include well equipped laboratories such as Electrical Machines laboratory, Power Systems and simulation Laboratory, Circuits and Networks laboratory, Control Systems laboratory, Electrical Measurements laboratory, Power Electronics Laboratory, Electrical workshop and Departmental Library.

Our vision:

To become a front-runner, the department of Electrical and Electronics Engineering brings out competent engineers, innovators, researchers with human and ethical values, thereby contributing value to the knowledge-based economy and society.

Our Mission:

- To educate and train engineers who are highly skilled, innovative, and committed to ethical values.
- To encourage research and innovation, fostering a culture of curiosity and creativity among our students.
- To produce graduates who make a positive impact on the knowledge-based economy and society as a whole by using their knowledge and values to solve real-world problems.

Program Outcomes:

Engineering Graduates will be able to:

PO1	**Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	**Problem analysis**: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3	**Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
PO4	**Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	**Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations
PO6	**The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice
PO7	**Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	**Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	**Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	**Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	**Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one‟s own work, as a member and leader in a team, to manage projects and in multidisciplinary environments
PO12	**Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change

Program Specific Outcomes (PSOs) of EEE Department:

PSO1: Able to utilize the knowledge of high voltage engineering in collaboration with power systems in innovative, dynamic and challenging environment, for the research based team work.

PSO2: Able to explore the scientific theories, ideas, methodologies and the new cutting edge technologies in renewable energy engineering, and use this erudition in their professional development and gain sufficient competence to solve the current and future energy problems universally.

PSO3: Able to provide socially acceptable technical solutions to complex electrical engineering problems with the application of modern and appropriate techniques for sustainable development.

Program Educational Objectives

- **PEO1:** To Excel in professional career and/or higher education by acquiring knowledge in mathematics and Basic Sciences, Basic Electrical Sciences, Power Systems, Power Electronics and Electrical Drives

- **PEO2:** To identify the problems in society and design electrical systems appropriate to its solutions using soft controllers that are technically sound, economically feasible and socially acceptable.

- **PEO3:** To Exhibit professionalism, ethical attitude, communication skills, team work in their profession and adapt to current trends in technology by engaging in continuous professional development.

Toppers (2020-21 Batch):

To The TOPPERS of Batch 2020-24 B. Tech EEE

D. ALLI RANI

Regd.No: 20G31A0208

Percentage: 78.9%

V. BABUDDIN

Regd.No: 20G31A0225

Percentage: 78.56%

K. YUGANDHAR

Regd.No: 21G35A0214

Percentage: 78.52%

GENERATION SCENARIO IN INDIA

India is a country having a population of over 1.38 billion with a population share of over 17.7% of the global population. It is facing a massive challenge in providing consumers with sufficient energy supplies at an affordable cost. In the present scenario the power sector is like a commodity market, electricity must be economical and reliable. Since major part of the generation is from fossil fuels, it emits nitrogen, sulfur and carbon oxides. Due to increased population and limited fossil fuels in India, it becomes essential to adopt renewable energy generation. The contribution of renewable energy generation in 2002 is 0.34 GW, which is 2 % of the total in-stalled capacity of country (17 gigawatts). The contribution of renewable energy generation touched 85.9 gigawatts (23 per cent) of 373.4 gigawatts by 2020. India secured third place in renewable energy generation in world.

Energy has vital importance in development of any country. With an area of 3, 287, 263 sq.km, India is the seventh largest country in the world. It has 28 states and 8 Union territories. It is very important challenge to provide quality supply to all people at optimal cost. Due to rapid population growth, energy consumption in India is drastically changed in recent decade. Because of increased urbanization and living standards of Indian people, the energy demand raise expressively. Without proper estimations, severe shortages may occur in future.

In recent years, to reach the growing energy requirement of the society, non-conventional form of energy has been considered. Government of India also en-courage by giving various schemes & policies to encourage the use of renewable sources such as wind, solar, etc.. India placed in third position in electricity consumption and generation in the world. In 2020, India reached 1,252.61 billion units generation. In utilization of non-conventional energy, India ranked fourth for wind energy, fifth for solar energy with total renewable energy capacity fifth rank courage by giving various schemes & policies to encourage the use of renewable sources such as wind, solar, etc.. India placed in third position in electricity consumption and generation in the world. In 2020, India reached 1,252.61 billion units generation. In utilization of non-conventional energy, India ranked fourth for wind energy, fifth for solar energy with total renewable energy capacity fifth rank.

Power sector of India is most differentiated in the world. India has numerous sources of energy generation like conventional sources such as lignite, hydro, coal, natural gas, nuclear power and non-conventional sources like agricultural waste, wind, solar, etc. India also tries for clean energy and listed as sixth country to make significant

investments for clean energy. The focus and future in India is attaining “Power for all". The total installed capacity with respect to various sectors is given in Table 1 and total installed capacity in terms of various types of fuels is given in Table 2.

Table 1. Sector wise Total Installed Capacity

Sector	Mega Watt	Total Percentage
Private Sector	175.486	47.00
State Sector	103.617	27.80
Central Sector	93.927	25.20
Total	**3,73.029**	

Table 2.Fuel wise Total Installed Capacity

Fuel	Mega Watt	Total Percentage
Total Thermal	2,31,321	62.00%
Coal	1,99,595	53.60%
Lignite	6,260	1.7%
Gas	24,957	6.70%
Diesel	510	0 1%
Hydro (Renewable)	45,699	12.30%
Nuclear	6,780	1.80%
RES* (MNRE)	89,229	23 9%
Total	**373,029**	

FUN with Electrical

Of course, these jokes might not light up the room, but they're sure to spark a smile!

- Why was the capacitor upset? Because it couldn’t find its charge.
- Why did the photon check into a hotel? Because it was traveling and neededrest mass.
- Why do programmers prefer dark mode? Because light attracts charges!
- What did the battery say to the resistor? You complete me.
- Why did the electrician go to art school? To learn how to draw more current.
- Why do electricians make good comedians? They have the best current jokes!

I love nights

Yes the night- No worries only dreams...no one to feel jealous of me at that time The time when the pure hearts of child disturbs their moms' sleep.

Yes the night - no discrimination even for colours only 2- light and dark one shines us while one hides us.

Yes the night - time when true hearted people cry with loud silence.

Yes the night- which makes impossible things possible by the virtue of dreams But these nights never let us feel the same ever.

Once we have a nightmare ...once we have a beautiful dream...once we remember a memory once we try to wipe our tears.

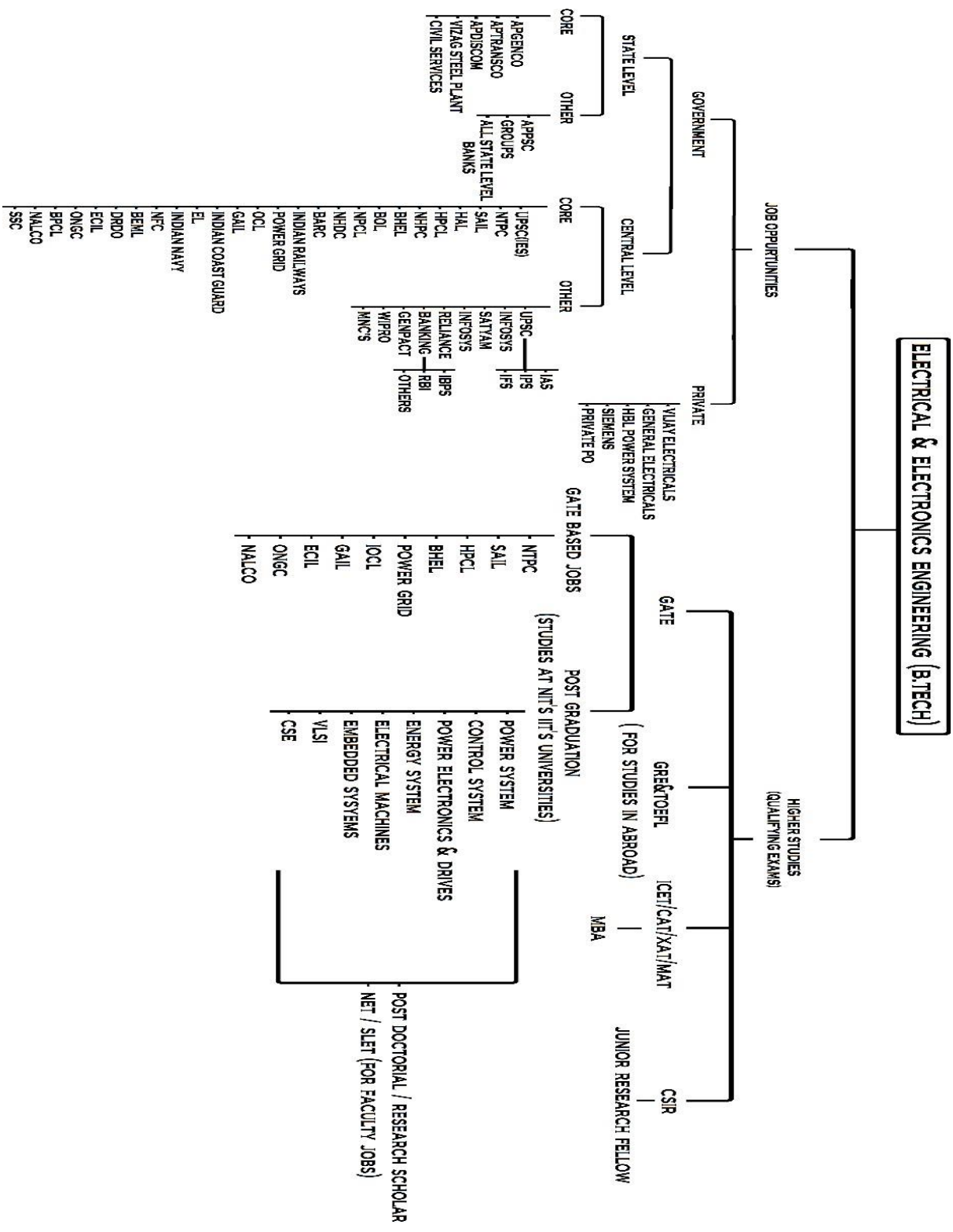
LOVE THE NIGHT!! IT IS NOT DARK IT HAS MANY INVISIBLE COLOURS

A PUSHPALATHA

20G31A0201

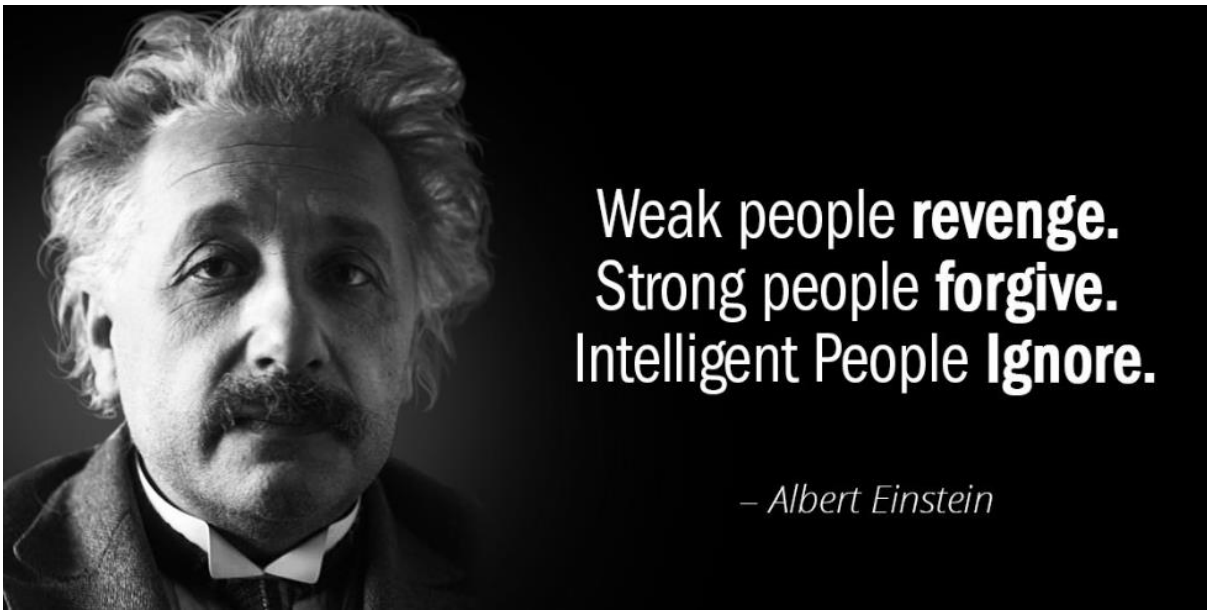
EEE Opportunities

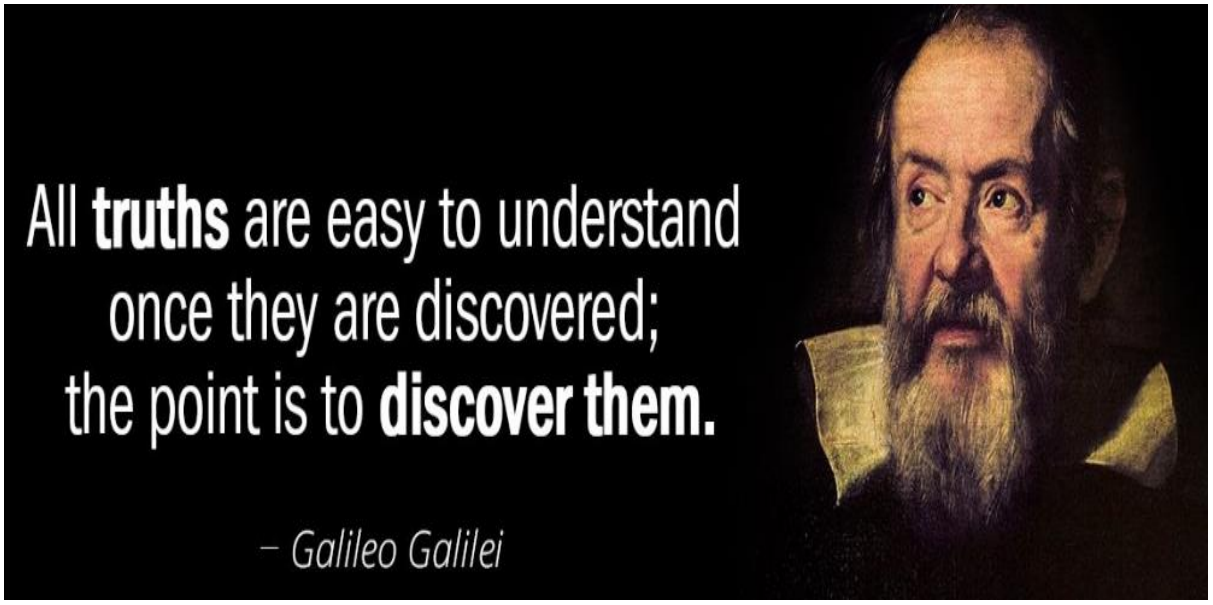
Here are some of the job roles that a Electrical and electronics engineering can get:

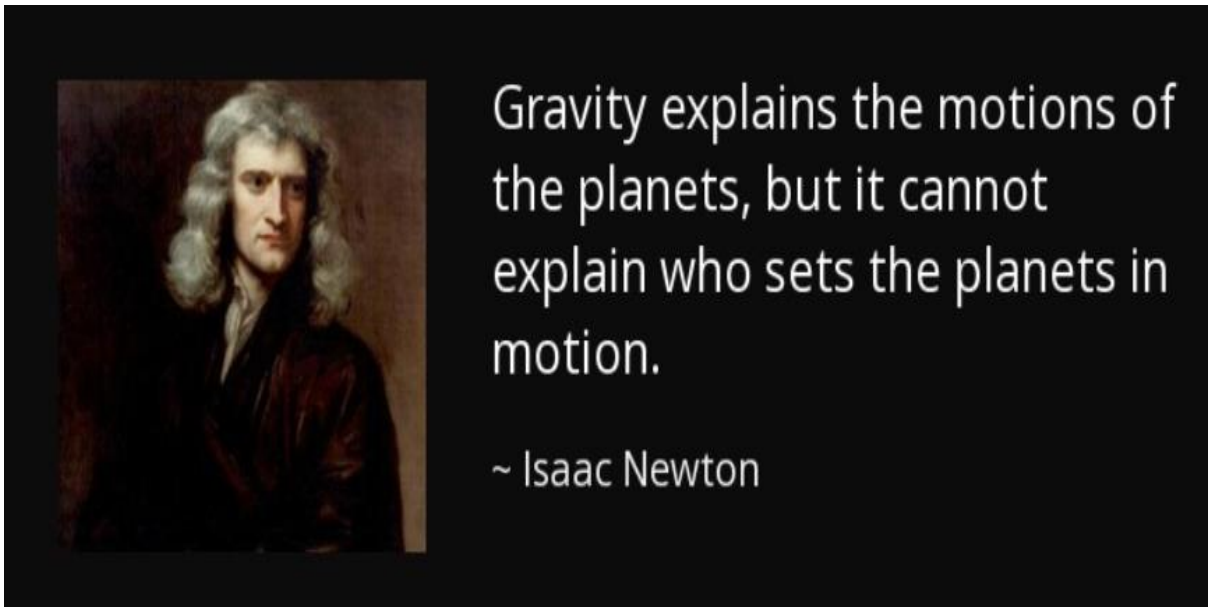


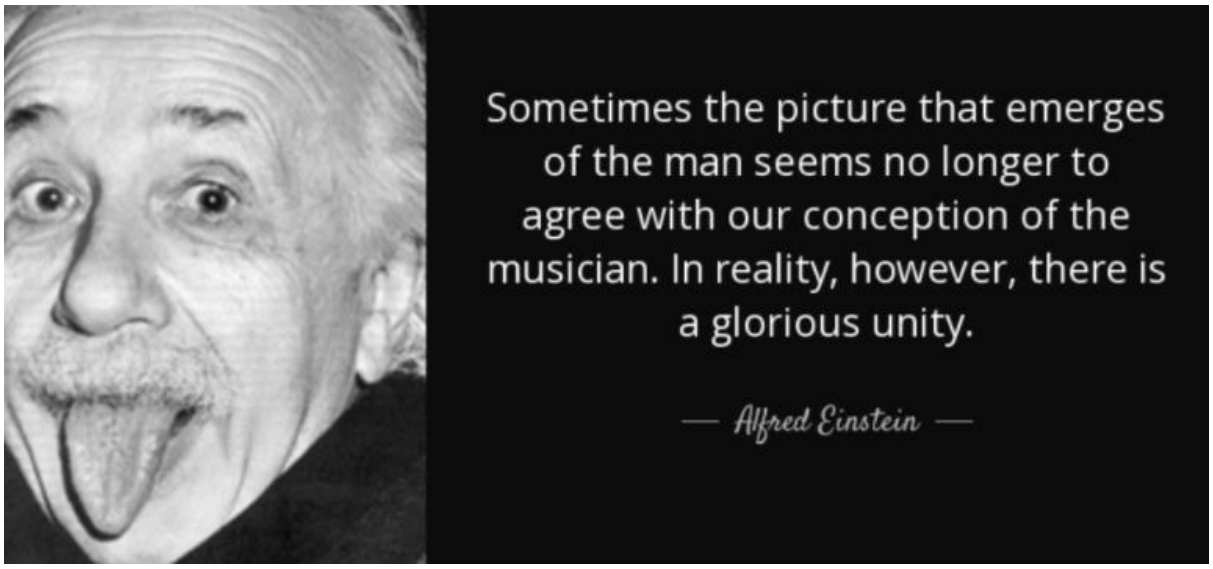
Some Arts By Our Student V. BABUDDIN

ELELCTRICAL QUOTES




All truths are easy to understand
once they are discovered;
the point is to discover them.
– Galileo Galilei


Gravity explains the motions of the planets, but it cannot explain who sets the planets in motion.
~ Isaac Newton


Sometimes the picture that emerges of the man seems no longer to agree with our conception of the musician. In reality, however, there is a glorious unity.
— Alfred Einstein —

ACTIVITIES:

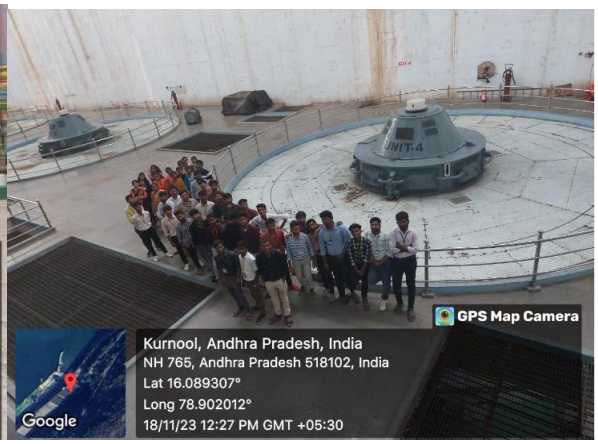
FRESHERS PARTY

FAREWELL PARTY

AWARENESS CAMPAIGN

TECHNOBRAIN-2K23

Industrial Visits



Srisailam Right Bank Power House
(7x110 mw), SRISAILAM

Kurnool Ultra Mega Solar Park,
ORVAKAL

Magazine Review Committee

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