



KALEIDOSCOPE

A Yearly News Bulletin Published By
DEPARTMENT OF ELECTRICAL ENGINEERING
JORHAT ENGINEERING COLLEGE
2018 Edition



VISION

Develop as centre of excellence in electrical engineering for producing competent professionals for sustainable industrial and societal growth



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MISSION

The Mission of Electrical Engineering Graduate Program is

- To impart quality technical education at UG, PG and PhD levels.
- To promote continuing effective interactions with academia, alumni and industry.
- To inculcate creativity, societal and ethical values.
- To develop a sustainable learning environment.

ELECTRICAL ENGINEERING DEPARTMENT



Jorhat Engineering College founded in 1960 by the government of Assam, is one amongst the top quality government engineering college in Assam, northeast India. The college, affiliated with Assam Science and Technology University, is accredited by the All India Council for Technical Education. It has five four-year undergraduate programs: Civil Engineering, Computer Science and Engineering, Electrical Engineering, Instrumentation and Mechanical Engineering. It also offers master's courses in Computer Application (MCA), Civil Engineering (Design of civil engineering structures) Electrical Engineering (Instrumentation and control engineering), Mechanical Engineering (Production and industrial engineering). It also offers Ph.D courses.

The department of Electrical Engineering was established in the year 1961 just after the year of establishment of the college in 1960 with an initial intake capacity of 30 students which was increased to 60 after few years. The department offers B.E. (Instrumentation Engineering) degree course..

HEAD OF THE DEPARTMENT'S COLUMN



I feel great pleasure to know that our department has become able to publish a yearly News Letter of our department - "Kaleidoscope". The standard of articles and news of different sections gives a sense of pride that our students and professors possess creative potential and original thinking attitude. I bow to the contributors for their stimulated thoughts and varied hues in articles contributed by them. I congratulate the team members who worked relentlessly burning the mid-night oil and keeping no stone unturned, to become successful in bringing out this first print of the news letter. I am hopeful that this great piece of technical work shall develop the taste for "reading and writing" among students and encourage them to take part in different curricular, co-curricular and extra-curricular activities, inside and outside this college and our department, and also develop a sense belonging to the institution as well by taking part in different departmental and inter-departmental group activities.

PRINCIPAL'S COLUMN



I am delighted to know that the department of Electrical Engineering of Jorhat Engineering College is going to publish a news letter - Kaleidoscope for the year 2018 covering all the activities of the year. The initiative taken by the Electrical Engineering family is really appreciable as the contents of the news letter will carry worthfull information to the readers.

I sincerely hope that such type of publication will be contiued in the coming days in a regular manner.

I wish all success for this issue and the publication team.

FACULTIES

ELECTRICAL ENGINEERING DEPARTMENT



DR. ADITYA BIHAR KANDALI
HOD AND PROFESSOR



DR. CHHOTAN SAHU
PROFESSOR



DR. MRINAL BURAGOAIN
PROFESSOR



NIPAN KUMAR DAS
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TILOK BARUAH
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PAPU MONI SAIKIA
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PRANABJYOTI HALOI
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DR. SUMAN SUTRADHAR
ASSISTANT PROFESSOR



POOJA BORA
ASSISTANT PROFESSOR



TUSHAR KUMAR DASH
ASSISTANT PROFESSOR



PANKAJ SHARMA
ASSISTANT PROFESSOR



RAHUL RAMAN
ASSISTANT PROFESSOR

DEPARTMENTAL SONG



উত্তৰ-পূবৰ ৰেঙণি তুমি,
উনৈছশ ষাঠিৰেপৰা জিলিকি থকা
এখনি ৰঙীন আকাশ তুমি ।
তোমাৰ বুকুৰে এখনি বৈদ্যুতিক পথাৰ,
আৰম্ভ হৈছিল প্ৰযুক্তিবিদ্যাৰে
অসম পোহৰাই তোলাৰ জোৱাৰ ।

জিলিকি ৰৈছে ভোগদৈৰ পাৰ !
গঢ়ি উঠিছে কত উজ্জ্বল নক্ষত্ৰ,
বৈদ্যুতিকতাৰ ৰং সানি
হয় বৈদ্যুতিক অভিযন্তা আমি।

এন্ধাৰ নেওচি আগুৱাই নিও ,
যন্ত্ৰকো পৰিচালিত কৰো ,
ইলেক্ট্ৰনৰ গতিৰ দৰে মুকলি হৈ
পোহৰ বিলাও।
একো একোজন বৈদ্যুতিক অভিযন্তা আমি।

আহা আমি খোজ দিও
প্ৰগতিৰ পথত অগ্ৰসৰৰ দিশে,
প্ৰযুক্তিবিদ্যাৰে নিজৰ লগতে
চৌপাশ উজ্জ্বল কৰাৰ উদ্দেশ্যে ।

DEPARTMENTAL ACHIEVEMENTS

- Jubin Gogoi got placed in Oil India Limited through Training & Placement Cell, JEC.



- Arnab Kishore Bordoloi got placed in Oil India Limited through Training & Placement Cell, JEC.



- Nayan Moni Kalita and Partha Pratim Hazarika awarded Gandhi Fellowship.



- Nayan Moni Kalita cleared GATE in 2018.

- Amlan Bivab Hazarika secured 5th rank in the 42nd NATIONAL ARM WRESTLING CHAMPIONSHIP 09th-14th May, 2018.



DEPARTMENTAL ACHIEVEMENTS

- Manchuam Gohain has passed the Certificate B Examination held in 2017-18 under the authority of Ministry of Defence, Govt of India.



- Abhisekh Upadhyay has undergone a one month training in Tarapur Atomic Power Station under NUCLEAR POWER CORPORATION OF INDIA LIMITED.



- K.D Subrata has secured the 2nd position in Chem-O-Shot held during Reflux 7.0.
- Jyotishnata Pathak has successfully completed the “RASPBERRY PI WORKSHOP”, jointly organized by HT India Labs in association with Techniche 2018.

DEPARTMENTAL ACHIEVEMENTS

- Pooja Rani Bora, Dibyajyoti Chatterjee and Anshuman Baruah won 2nd prize in Ideate: BEL Innovate Illuminate in the ongoing Technical Fest of IIT Bombay.
- Dibyajyoti Chatterjee, Anshuman Baruah and Pooja Rani Bora, BE 5th Semester, won a medal for their work at a competition at IIT Bombay.



PHD SCHOLARS



TILOK BARUAH



**GUISDGUY ROBERT
MICHAEL**



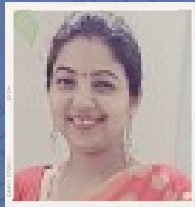
PAPUMONI SAIKIA



PRANABJYOTI LAHON



NIPAN KUMAR DAS



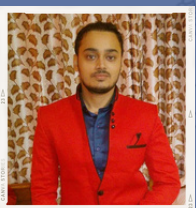
MONISHA PATHAK



N.K KAPHUNGKI



KAKOLI GOSWAMI



MANISH SHANKAR KAUSHIK



RUBUL SAIKIA

PROGRAM DETAILS

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NO.

PROGRAM DETAILS

1

Jorhat Engineering College, Assam has conducted a 3 week long Induction Program for the first-year students of 4-year Bachelor of Engineering Degree course in August 2018

2

Jorhat Engineering College, Assam has conducted a 3 week long Induction Program for the first year students of 4-year Bachelor of Engineering Degree course in August 2018.

3

Jorhat Engineering College, Assam has conducted a 1 week long Induction Program for the first-year students of 4-year Bachelor of Engineering Degree course in January 2018 for 1st Year Students.

ACTIVITIES

Sl. No	Activity	Date	Name of event	Organized by	
Event 1	1	Workshop	23rd Oct '18	Workshop on Electrical Safety, Regulation and its implementation in industries	Electrical Engg. Dept
Event 2	1	Workshop	26th to 27th March '18	Workshop on Signal Processing, Image Processing, Computer Vision and Applications	Electrical Engg. Dept
Event 3	1	Three-Days Out-of-Course Programme	14th to 16th Sept '18	Data Analysis using Microsoft Excel-2010/2013 (Advanced level)	Electrical Engg Dept
	2	Three Day Xilinx Training	7th to 9th Aug '18	Xilinx Training	Electrical Engg Dept
	3	Two Weeks STC	23rd July to 3rd Aug '18	Multimedia Signal Processing, and selected topics on control system	Electrical Engg Dept

GALLERY



26-03-18



16-09-18 17:36



26-03-18 09:48



26-03-18 16:00



27-03-18 15:41



29-07-18 12:02

GALLERY



GALLERY



ARTICLES

ENGINEERING: A TREND OR A CHOICE?

“At its heart, engineering is about using science to find creative and practical solutions. It is a noble profession.” -Queen Elizabeth II,

Kicking off with the words from the longest reigning monarch in British History sprinting in mind. Ours is a developing state. With obstacles hitting quite habitually, the goal is to satisfy a criterion of national optimality. Hence, engineering is being vested upon with a grave responsibility. Heading towards the perspective of the present scenario, people are being welcomed to this field more as a vogue than mere inquisitiveness. The preliminary education system would orient towards evaluating their aptitude and choosing the right path, which would otherwise be hazardous. However, in the absence of proper orientation, people make a quixotic decision to join the most appreciated discipline- Engineering. Any decision made out of peer pressure or following others, is definitely not legitimate. The conventional myths that prevail during choice of any branch as career must be taken care of.

Such practices play a vital role in the increasing rated of unemployment at an alarming rate, dissatisfaction in the existing jobs which can lead to high turnover rates, etc. To overcome this tenure, the age old traditions that, professional courses be the steps of a successful life, should be put to shame.

Steve Jobs quotes, “So you have to trust that the dots will somehow connect in your future. You have to trust in something – your gut, destiny, life, karma, whatever”

Have faith on your choices you desired the most. Its certainly going to fetch something, would somehow lead to some better place. Establish the connection with self confidence rather than crying at the fortune.

Agitation to what others say or react is to be made mainstream. Individuals should be properly oriented with the forthcoming associated with every decisions made. Crucial interest backed by appreciating aptitude skills would definitely serve us efficiently in the long run.

EMERGENCE OF NUCLEAR POWER IN THE FIELD OF POWER GENERATION

“NUCLEAR POWER IS OUR GATEWAY TO PROSPEROUS FUTURE”- DR. APJ ABDUL KALAM

GENERATION OF ELECTRICITY HAS ALWAYS BEEN A CHALLENGE BECAUSE OF THE LIMITED AVAILABILITY OF THE NATURAL RESOURCES IN THE COUNTRY. MAJOR PRODUCTION OF ELECTRICITY DEPENDS UPON THE NON-RENEWABLE RESOURCES LIKE COAL, NATURAL GAS, DIESEL ETC. TO MEET THE DEMAND OF ELECTRICITY USAGE BY THE RISING POPULATION HUNDREDS OF POWER PLANTS ARE GENERATING POWER THROUGHOUT THE COUNTRY.

BUT “IS THE POWER GENERATED FULFILLING THE COUNTRY’S NEED?”. INDIA BEING THE WORLD’S THIRD LARGEST PRODUCER ,AS WELL AS CONSUMER OF ELECTRICITY HAS INSTALLED THE CAPACITY OF 362.12 GW AS OF 30 SEPTEMBER 2019. ABOUT 65% OF THE ELECTRICITY CONSUMED IN INDIA IS GENERATED BY THERMAL POWER PLANTS AND NUCLEAR CONTRIBUTES ONLY 3% IN THIS FIELD(COMPRISED 22REACTORS IN 7NPP’S).

BEING CONSIDERED AS ONE OF THE CHEAPEST, MORE EFFICIENT, AND MOST CARBON FRIENDLY FORM OF GENERATION NUCLEAR POWER IS NOW A MAJOR BASE LOAD POWER GENERATING SOURCE. DURING THE PERIOD 2012-17 ITS CUMULATIVE CAPACITY INCREASED FROM 18GW TO 392GW AND AS OF NOW IT HAS INCREASED TO 2563TWH . A SUDDEN INCREASE IN THE STATISTICS WAS DUE TO ITS HIGH PRODUCTION AT MUCH CHEAP RATE.

“A URANIUM PELLAT OF 1.2CM*1.2CM SIZE CAN PRODUCES ENERGY EQUIVALENT TO 800KG COAL OR 675 LITRES OF DIESEL”. SO WHY NOT NUCLEAR INSTEAD OF COAL OR NATURAL GAS? THE CONCERNS NEEDED TO BE ADDRESSED IN PREPARATION FOR DECISION ON THE NUCLEAR POWER DEPLOYMENT CONCEPT. THE FACTORS THAT INFLUENCE THE DECISION ON NUCLEAR POWER DEPLOYMENT WILL VARY FROM COUNTRY TO COUNTRY DEPENDING ON TECHNICAL NATURE, INCLUDING SITE SELECTION AND SAFETY IN NUCLEAR TECHNOLOGY DEPLOYMENT.



OTHER FACTORS ARE RELATED TO ECONOMICS, SUCH AS CAPITAL COST/INVESTMENT, WHILE OTHERS ARE SOCIALLY RELATED INCLUDING ENVIRONMENTAL EFFECTS, PROLIFERATION RISKS AND WASTE MANAGEMENT ISSUES.

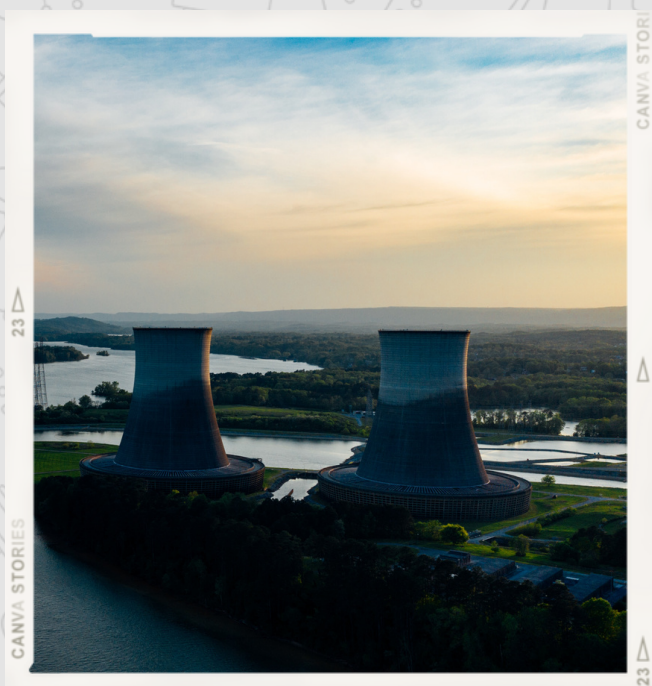
KUDANKULUM NUCLEAR POWER PLANT AFTER FACING SEVERAL DELAYS DUE TO OPPOSITION OF LOCAL FISHERMEN WAS FINALLY SYNCHRONIZED WITH SOUTHERN GRID IN OCTOBER 2013 WITH A GENERATING CAPACITY OF 6000MWE. A CONTROVERSIAL ACT AS SUCH FOR A PEARL OF INDIA IS QUITE UNCONSIDERABLE. IGNORANCE OF KNOWLEDGE BEHIND NUCLEAR CAUSES ARE THE REASONS OF FEAR AMONGST COMMON MEN AS CAN BE SEEN FROM THE INSTANCE OF THE ACCIDENTS CAUSED IN FUKUSHIMA NUCLEAR POWER PLANT(SUFFERED MAJOR DAMAGE FROM THE MAGNITUDE 9.0 EARTHQUAKE AND TSUNAMI THAT HIT JAPAN CAUSING RADIATION LEAKS AND PERMANENTLY DAMAGED SEVERAL REACTORS, MAKING THEM IMPOSSIBLE TO RESTART) AND CHERNOBYL(WORST NUCLEAR DISASTER IN HISTORY CAUSING REACTOR TO BLAST). THIS CAUSES OF UNCERTAINTY HAS INSPIRED THE SCIENTIST AND RESEARCHERS TO REDESIGN IT TO THE SAFEST LEVEL.

THE NPPS IN INDIA ARE NOT ONLY SAFE BUT ARE ALSO WELL REGULATED, HAVE PROPER RADIOLOGICAL PROTECTION OF WORKERS AND THE PUBLIC, REGULAR SURVEILLANCE, DOSIMETRY, APPROVED STANDARD OPERATING AND MAINTENANCE PROCEDURES, A WELL-DEFINED WASTE MANAGEMENT METHODOLOGY, PROPER WELL DOCUMENTED AND PERIODICALLY REHEARSED EMERGENCY PREPAREDNESS AND DISASTER MANAGEMENT PLANS.

THE NPPS HAVE OCCUPATIONAL HEALTH POLICIES COVERING PERIODIC MEDICAL EXAMINATIONS, DOSIMETRY AND BIOPSY AND ARE BACKED-UP BY FULLY EQUIPPED PERSONNEL DECONTAMINATION CENTERS MONITORED BY DOCTORS QUALIFIED IN OCCUPATIONAL AND INDUSTRIAL HEALTH. MOREOVER, THEY HAVE SPECIALIZED TRAINING IN HANDLING RADIOLOGICAL EMERGENCIES.

BY RELIABLY PROVIDING POWER 24 HOURS A DAY, NUCLEAR POWER IS AN IMPORTANT PART OF THE ENERGY NECESSARY TO MEET ELECTRICITY DEMAND. AND, WITH NO CARBON EMISSIONS, IT WILL REMAIN AN IMPORTANT CLEAN ENERGY RESOURCE FOR THE FUTURE.

**ABHISEKH UPADHYAY,
7TH SEMESTER**



GLOBAL INITIATIVES TO REDUCE GREENHOUSE GASES

TILOK BORUAH, ASSISTANT PROFESSOR

FRANKLIN BURAGOHAJ, PG SCHOLAR,

DEPARTMENT OF ELECTRICAL ENGINEERING, JORHAT ENGINEERING COLLEGE

THE WORLD IS IN A STATE WHERE GLOBAL WARMING AND CLIMATE CHANGE IS THE MOST HEATED DEBATED TOPIC OF THE TOWN. AS THE AMOUNT OF GREENHOUSE GASES IN THE ATMOSPHERE HAS INCREASED VERY INTENSIVELY BECAUSE OF HUMAN INTERVENTION, THE WORLD COMMUNITY HAS BROUGHT DIFFERENT LEGAL BINDING APPROACHES TO COMBAT CLIMATE CHANGE AND ITS AFFECTS, WITH ENHANCED SUPPORT FROM THE DEVELOPING AND DEVELOPED COUNTRIES.

ALTHOUGH THE FIRST GLOBAL WARMING THEORY WAS PROPOSED IN 1824 BY JEAN-BAPTISTE JOSEPH LATER LABELED AS "GREENHOUSE EFFECT" IN THE LATE 19TH CENTURY. BUT INTERESTINGLY THE SCIENTIST OF 20TH CENTURY DID NOT TAKE THIS THEORY SERIOUSLY. IN 1938 G.S. CALLENDAR'S, "CALLENDAR EFFECT" LED TO INCREASE DIFFERENT MODELS TO MEASURE HOW CLIMATE WAS BEHAVING AND HOW GREENHOUSE GASES WERE IMPACTING THE WORLD. FINALLY, BY LATE 1980S THE GLOBAL WARMING THEORY GAINED CURRENCY AMONG THE EDUCATED ELITES OF THE WORLD.

AMONG THE VARIOUS MECHANISMS TO REDUCE THE ADVERSE EFFECTS OF

GREENHOUSE GASES, THE MONTREAL PROTOCOL IS ONE OF THE LANDMARK MULTILATERAL ENVIRONMENTAL MECHANISMS WHICH REGULATES THE PRODUCTION AND CONSUMPTION OF 100 MANMADE CHEMICALS REFERRED TO AS OZONE DEPLETING SUBSTANCES (ODS). THE MONTREAL PROTOCOL WAS SIGNED IN 1987 TO FURTHER THE GOALS OF VIENNA CONVENTION. AS UNITED NATIONS MEMBER COUNTRIES RECOGNISED THE IMPORTANCE OF CURBING DAMAGE TO THE OZONE LAYER, THE PROTOCOL CAME INTO FORCE IN JANUARY 1989. IT IS THE FIRST UNITED NATIONS TREATY TO BE RATIFIED BY EVERY NATION IN THE WORLD, WITH 198 PARTIES HAVING DONE SO. THE PROTOCOL HAS BEEN CONSIDERED THE MOST SUCCESSFUL INTERNATIONAL ENVIRONMENTAL ACTION TAKEN BY COUNTRIES. MANY REPORTS SAY THAT, FROM 1990 TO 2010, THE PROTOCOL HAS HELPED REDUCE GAS EMISSIONS BY THE EQUIVALENT OF 135 GIGATONS OF CARBON DIOXIDE. THE KIGALI AMENDMENT OF MONTREAL PROTOCOL INCLUDES SPECIFIC GOALS AND TIMELINES FOR REPLACING HFCS WITH ALTERNATIVES THAT ARE BETTER FOR THE ENVIRONMENT.

THE KYOTO PROTOCOL WAS ANOTHER ADDITION TO THE MECHANISMS OF REDUCING GREENHOUSE GASES. IT WAS ADOPTED IN DECEMBER 1997, AIM TO REDUCE THE EMISSION OF GASES THAT CONTRIBUTE TO GLOBAL WARMING. GREENHOUSE GASES SUCH AS CARBON DIOXIDE (CO₂), METHANE (CH₄), NITROUS OXIDE (N₂O), PERFLUOROCARBONS (PFCS), HYDROFLUOROCARBONS (HCFS), AND SULFUR HEXAFLUORIDE (SF₆), AFFECT THE ENERGY BALANCE OF THE GLOBAL ATMOSPHERE IN WAYS EXPECTED TO LEAD TO AN OVERALL INCREASE IN GLOBAL AVERAGE TEMPERATURE, KNOWN AS GLOBAL WARMING. TO PREVENT GLOBAL WARMING, MEMBERS TO THE UNFCCC AND THE PROTOCOL AIMED TO REDUCE ATMOSPHERIC GREENHOUSE GASES. THE PROTOCOL CAME INTO FORCE IN FEBRUARY 2005, 90 DAYS AFTER BEING RATIFIED BY AT LEAST 55 ANNEX I SIGNATORIES THAT TOGETHER ACCOUNTED FOR AT LEAST 55 PERCENT OF TOTAL CARBON DIOXIDE EMISSIONS IN 1990. THE PROTOCOL HAS PROVIDED SEVERAL MEANS FOR PARTIES TO REACH THEIR TARGETS. ONE OF THE MAJOR APPROACHES WAS CLEAN DEVELOPMENT MECHANISM (CDM). UNDER THE CDM, THE INVESTING COUNTRY COULD CLAIM THE EFFECTIVE REDUCTION IN EMISSIONS AS A CREDIT TOWARD MEETING ITS OBLIGATIONS UNDER THE PROTOCOL. THE PROTOCOL'S FIRST COMMITMENT PERIOD STARTED IN 2008 AND ENDED IN 2012. 36 COUNTRIES HAD PARTICIPATED IN THE FIRST COMMITMENT PERIOD OF THE LEGALLY BINDING PROTOCOL.

INDIA WAS EXEMPTED FROM THIS PROTOCOL ON GREENHOUSE GAS EMISSIONS. THE OFFICIAL MEETING OF ALL COUNTRIES ASSOCIATED WITH THE KYOTO PROTOCOL IS CALLED THE CONFERENCE OF PARTIES. THE 2011 UNCCC, WHICH WAS HELD IN DURBAN ESTABLISHED A NEW TREATY TO LIMIT CARBON EMISSIONS. THE DOHA AMENDMENT TO THE KYOTO PROTOCOL WAS ADOPTED IN THE SECOND COMMITMENT PERIOD WHICH RANGES FROM 2012 TO 2020. ONLY 37 DEVELOPED COUNTRIES SIGNED ON FOR THE SECOND PERIOD UNDER THE KYOTO PROTOCOL. THE US, THE BIGGEST EMITTER OF GREENHOUSE GASES (NOW SECOND) NEVER RATIFIED THE KYOTO PROTOCOL. THEREFOR DIDN'T TAKE ON A LEGALLY BINDING REDUCTION EITHER IN THE FIRST OR SECOND PERIOD. ON 12 DECEMBER 2015, THE HISTORIC PARIS AGREEMENT BUILDS UPON THE CONVENTION AND FOR THE FIRST TIME BRINGS ALL THE NATIONS INTO COMMON CAUSE TO COMBAT CLIMATE CHANGE. THE CENTRAL AIM OF THIS AGREEMENT IS TO STRENGTHEN THE GLOBAL RESPONSE TO THE THREAT OF CLIMATE CHANGE BY KEEPING A GLOBAL TEMPERATURE RISE BELOW 2 DEGREE CELSIUS ABOVE PREINDUSTRIAL LEVEL. 55 COUNTRIES HAVE BEEN RATIFIED THE AMENDMENT. THE RECENT UNCCC, GLASGLOW CONFERENCE OF PARTY (COP26) PRODUCE NEW BUILDING BLOCKS TO ADVANCE IMPLEMENTATION OF THE PARIS AGREEMENT THROUGH ACTIONS. IN THIS AGREEMENT 103 COUNTRIES SIGNED UP TO THE GLOBAL METHANE PLEDGE, WHICH AIMS TO LIMIT METHANE EMISSIONS BY 30 PERCENT BY 2030.

POEM

THE ELECTRONS BEING FLOWING THROUGH WIRE,
CAUSING CURRENT THAT WOULD CATCH FIRE.

WITHOUT WHICH LIFE'S MEANINGLESS,
DISTURBING EVERYONE'S ROUTINE BUSINESSES.

FLOWING THROUGH ALL THOSE BUNDLED CONDUCTORS
DERANGED BY RESISTANCES, INDUCTORS OR CAPACITORS.

ALTHOUGH IDEAL CONDITIONS IS WHAT WE DESIRE,
UNFAULTED PATHS, WE WANT TO HIRE.

BUT THEN, OCCURS A FAULT;

AT WHICH THE CURRENT WOULD HALT.

ELSE THE FAULT CURRENT WOULD INCREASE,
TO THREE TIMES, IT WOULDN'T BE AT PEACE.

UNSYMMETRICAL COMPONENTS DOING SOME WORK,
POSITIVE, NEGATIVE AND ZERO SEQUENCES DOING THE ANALYSIS WORK.

TO THE RESCUE THE RELAY ACTS QUICK,
SIGNALLING THE CIRCUIT BREAKER TO FLICK.

THIS LEADS THE FAULTY SECTIONS TO BE DISCONNECTED,
THUS, THE SYSTEM IS WELL PROTECTED.

MR. SWITCHGEAR SMILED FROM A DISTANCE,
PROTECTING THE POWER SYSTEM WITH EVERYONE'S ASSISTANCE.

**-VISHAL BORAH
ABHISEKH UPADHYAY
(7 TH SEM, EE)**