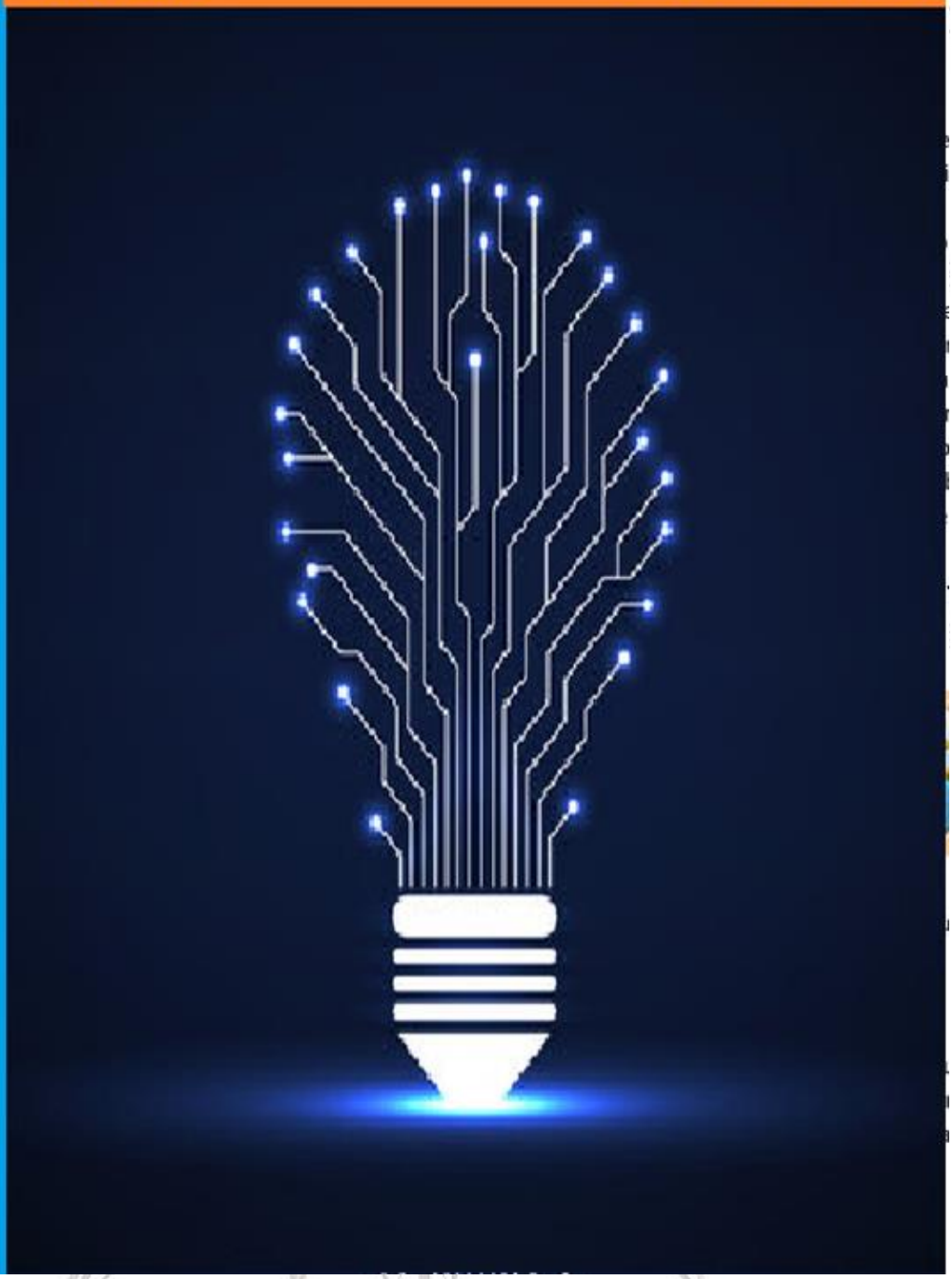
Gyan Ganga Institute of Technology & Sciences, Jabalpur

ELECTRA

July 2021

Volume - 1, Issue - 1



ELECTRA

The Yearly E-Magazine of Electrical Engineering Department
2021 – 2022 (Volume - 1, Issue - 1)

GYAN GANGA INSTITUTE OF TECHNOLOGY AND SCIENCES, JABALPUR

Near Bargi Hills, Tiwara Road, Jabalpur
Contact No.: 0761-2671551 / 80 / 72
Website: www.ggits.org

ELECTRA

The Yearly E-Magazine of Electrical Engineering Department
2020 – 2021 (Volume - 1, Issue - 1)

ELECTRA

The Yearly E-Magazine of Electrical Engineering Department
2020 – 2021 (Volume - 1, Issue - 1)

ABOUT THE DEPARTMENT

Department of Electrical Engineering (EE) is established in the year 2003 with the intake of 60 students to meet the requirements of Electrical Engineers for power sector, power sector industries, productions industries (PSU/Private) and R & D activities of Electrical Engineering after the consultation with stakeholders of the institute. Excellent infrastructure and lab equipment are provided for the students, so that our students come out with knowledge of latest cutting edge technology in both software and hardware. The Electrical engineering department has been accredited with excellence by National Board of Accreditation (NBA), New Delhi till 30th June, 2021.

VISION OF THE DEPARTMENT

- To produce Electrical Engineering graduates with sound technical knowledge and with ethical values who could excel in Electrical Systems.
- To apprise students of state of art technology and industrial engineering applications.
- To make Electrical Department as a centre of excellence.
- To encourage industrial activities in department with faculty and student participation.

MISSION OF THE DEPARTMENT

- To Impart intensive and innovative teaching and training through latest technology to provide cutting-edge for achieving excellence.
- To award practical projects aiming at solutions to practical industrial problems.
- To motivate faculty and technical assistants for updating / upgrading knowledge through training, seminars, workshops, conferences and higher studies.
- To create accredited / certified center for testing of transformers and other electrical equipment to cater to the needs of power sector / industries.
- Impart knowledge / solutions of social challenges, ethics, echo / environment etc. to produce worthy citizens.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs):

PEO 1 - Graduates will enter careers in the MNCs, PSUs, Private sector companies, etc. in the field of design, application, installation, manufacturing, operation & maintenance of electrical systems.

PEO 2 - Graduates will be undertaking higher studies. Graduate will analyze real life problems, will design techno-commercially feasible solutions to social problems.

PEO 3 - Graduates will be entrepreneurs, and will produce intellectual citizen to constitute an elegant society to meet social challenges with ethical & moral values having concern for the echo and environment.

PROGRAM SPECIFIC OUTCOMES (PSOs):

On successful completion of Electrical Engineering program, the graduate Engineers will be able to

PSO1: Apply principles of engineering, sciences, mathematics and laboratory skills for designing and developing solutions to problems of applications in the field of Electrical power and Energy systems.

PSO2: Engage in independent and life long learning in the technological advancements with the usage of modern design tools to analyze and design variety of complex applications in the field of Electrical Engineering.

PSO3: Communicate effectively with good leadership and managerial skills to work in a team or as team leader for techno commercially viable sustainable development of society, exhibiting core professional ethics.

ELECTRA

The Yearly E-Magazine of Electrical Engineering Department
2020 – 2021 (Volume - 1, Issue - 1)

FROM THE CHAIRMAN'S DESK

I am elated at the publication of college magazine for the academic year 2021-22. I sincerely hope that the magazine proves to be an enjoyable and useful apparatus in the hands of both students and teachers of the college. I am also confident that it will serve as a source of inspiration for the teachers as well as the students to contribute articles regularly to the magazine in future. I whole-heartedly congratulate the HOD, Editors and the committee members on their successful endeavor to bring out the magazine.

Dr. Rajneet Jain

Chairman, Gyan Ganga Group

ELECTRA

The Yearly E-Magazine of Electrical Engineering Department
2020 – 2021 (Volume - 1, Issue - 1)

FROM THE PRINCIPAL'S DESK

It takes me great honour in congratulating the students who have contributed for the current year's Tech Advisor magazine Acknowledging the fact that the magazine is completely created and designed by the students, I really hope this would kindle a spark in the minds of the students who are yet to contribute towards the progress of The Electric initiative in the upcoming years.

Dr. Ravindra V. Kshirsagar
Principal, GGITS, Jabalpur

ELECTRA

The Yearly E-Magazine of Electrical Engineering Department
2020 – 2021 (Volume - 1, Issue - 1)

FROM THE HOD'S DESK

I am very much happy that our department have taken steps to publish the quarterly e-magazine "ELECTRA". I hope it will create enthuse among students and staffs in future. ELECTRA is a communication link between faculty members and students within and outside the department. It reports about development and areas of thrust in the field of Electrical Engineering. ELECTRA tries to bridge the gap between academic and actual mode of working in the industry by providing articles on various topics of industry. At the same time magazine also serve as a knowledge booster and helping hand to our students. We also make aware our students with the general issues related to environment, ecology, economy and rest of the society. It also helps to bring

Dr. Ruchi Pandey
Head of Department
Electrical Engineering
GGITS, Jabalpur

ELECTRA

The Yearly E-Magazine of Electrical Engineering Department
2020 – 2021 (Volume - 1, Issue - 1)

FROM THE EDITOR'S DESK

The Creative minds of the Electrical Engineering Department of Gyan Ganga Institute of Technology and Sciences have come together to present what they have always wanted to and we congratulate every student who has given their contribution. They can't be appreciated enough and we can't explain how difficult it was to compile all their accomplishments into a single magazine. We take pride in showing you of how our very own GGITians have imaginations which spread across the horizons. We would like to thank the Management and all the staffs who have supported the 'ELECTRA' initiative and for having trust in the Editorial board by giving us full freedom to choose the contents and design for out magazine. The magazine should serve as a pillar of motivation for every other student who is yet to emerge as an Achiever and to carry the legacy of ELECTRA. The students who follow in the next academic years, we advise you to do the same. Go Mad, Be Productive but at the same time Be Creative!

FACULTY ARTICLES

FLEXIBLE AC TRANSMISSION SYSTEM CONTROLLERS

The electricity supply industry is undergoing a profound transformation worldwide. Market forces, scarcer natural resources, and an ever-increasing demand for electricity are some of the drivers responsible for such unprecedented change. Against this background of rapid evolution, the expansion programs of many utilities are being thwarted by a variety of well-founded, environment, land-use, and regulatory pressures that prevent the licensing and building of new transmission lines and electricity generating plants.

The ability of the transmission system to transmit power becomes impaired by one or more of the following steady state and dynamic limitations:

- Angular stability,
- Voltage magnitude,
- Thermal limits,
- Transient stability,
- Dynamic stability.

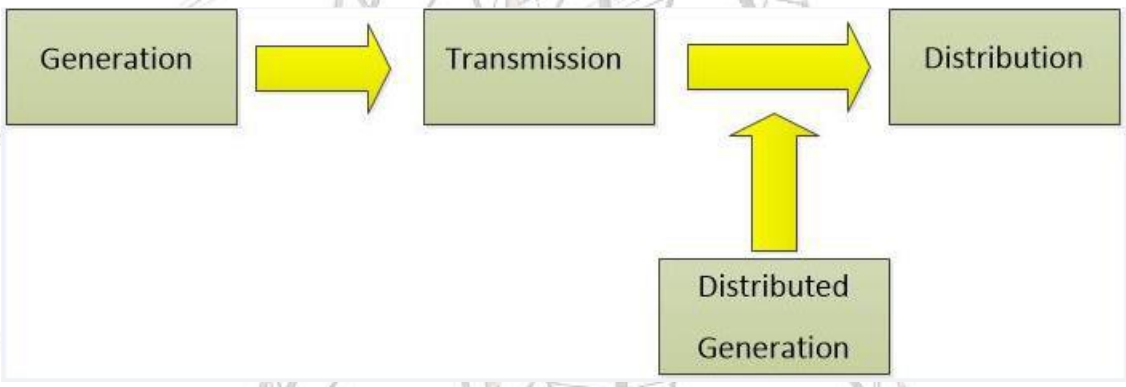
These limits define the maximum electrical power to be transmitted without causing damage to transmission lines and electrical equipment.

POWER SYSTEM CONTROL: Generation, Transmission, Distribution

Power system consisting of generation, transmission, distribution and consumption of electrical energy

can be detached into zones as shown in Figure:

1. Generation
2. Transmission
3. Distribution
4. Distributed Generation



Block diagram of Generation, Transmission & Distribution

Power System Constraints

There are many power system constraints and they put a limit over power transfer among areas. The

typical constraints are:

1. Thermal
2. Dynamic Voltage and voltage stability
3. Power System Oscillation Damping
4. Short Circuit Current and Other limitations

Some of the above constraints also influence the transmission system; hence there is a requirement for a solution to use with the transmission lines with highest possible efficiency.

Power system controllability

To improve the performance of a power system there are three key variables that must be controlled. The three main variables are: Voltage, angle and impedance AC network controllers used to improve the performance of a power system can be classified in two categories, conventional network controller and FACTS controller

FACTS Controllers

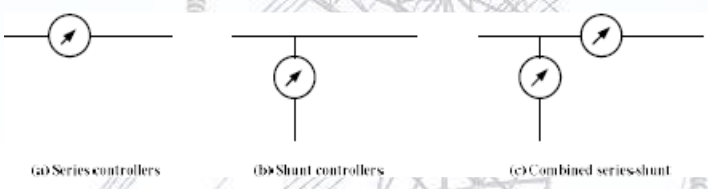
Flexible AC Transmission System (FACTS) is defined by as "Alternating current transmission systems incorporating power electronic-based and other static Controllers to enhance controllability and increase power transfer capability." The significance of the power electronics and other static Controllers is that they have high-speed response and there is no limit to the number of operations. Like a transistor leads to a wide variety of processors, power devices such as Thyristor, GTO, and IGBT lead to a variety of FACTS Controllers as well as HVDC converters. These Controllers can dynamically line voltage, active and reactive power flow, and control line impedance. They can absorb or supply reactive power and with storage they can supply and absorb active power as well. Figure below show that there are three types of FACTS

Controllers.

(a) as injection of voltage in series with the line;

(b) as injection of current in shunt and the

(c) a combination of voltage injection in series and current injection in shunt. These Controllers have constraint according to the specific type of Controller, its characteristics and rating



Types of FACTS controller

Objectives of FACTS controllers

The main objectives of FACTS controllers are the following:

- Regulation of power flows in prescribed transmission routes.
- Secure loading of transmission lines nearer to their thermal limits.
- Prevention of cascading outages by contributing to emergency control.
- Damping of oscillations that can threaten security or limit the usable line capacity

The implementation of the above objectives requires the development of high power compensators and controllers. The technology needed for this is high power electronics with real time operating control. The realization of such an overall system optimization control can be considered as an additional objective of FACTS controllers. FACTS offer solutions to overcome constraints on useable transmission capacity. These constraints may be due to Dynamic conditions like

- Sub synchronous Oscillations
- Dynamic over Voltages and Under Voltages
- Voltage Collapse

Steady State conditions of:

- Undesirable Power Flow
- Excess Reactive Power Flows
- Thermal Limits

Types of FACTS controllers –

(a) Static Synchronous Compensator (STATCOM)

STATCOM is a static synchronous generator operated as a shunt-connected Static VAR Compensator whose capacitive or inductive output current can be controlled independent of the ac system voltage.

(b) Static Var Compensator (SVC)

SVC is a shunt-connected Static VAR Generator or absorber whose output is adjusted to exchange capacitive or inductive current so as to maintain or control specific parameters of the electrical power system (typically bus voltage). SVC is an important FACTS controller already widely in operation. Ratings range from 60 to 600 MVAR.

(c) Thyristor Controlled Breaking Reactor (TCR)

TCBR is a shunt-connected thyristor-switched resistor, which is controlled to aid stabilization of a power system or to minimize power acceleration of a generating unit during a disturbance.

(d) Thyristor Controlled Series Capacitor (TCSC)

TCSC is a capacitive reactance compensator, which consists of a series capacitor bank shunted by a thyristor-controlled reactor in order to provide a smoothly variable series capacitive reactance.

(e) Static Synchronous Series Compensator (SSSC)

SSSC is a static synchronous generator operated without an external electric energy source as a series compensator whose output voltage is in quadrature with, and controllable independently of, the line current for the purpose of increasing or decreasing the overall reactive voltage drop across the line and thereby controlling the transmitted electric power . The SSSC may include transiently rated energy storage or energy absorbing devices to enhance the dynamic behaviour of the power system.

(f) Interline Power Flow Controller (IPFC)

IPFC is a combination of two or more SSSCs that are coupled via a common dc link to facilitate bidirectional flow of real power between the ac terminals of the SSSCs and are controlled to provide independent reactive compensation for the adjustment of real power flow in each line and maintain the desired distribution of reactive power flow among the lines. The IPFC structure may also include a STATCOM, coupled to the IPFC common dc link, to provide shunt reactive compensation and supply or absorb the overall real power deficit of the combined SSSCs.

(g) Thyristor Switched Series Reactor (TSSR)

TSSR is an inductive reactance compensator, which consists of a series reactor shunted by a thyristor controlled reactor to provide a stepwise control of series inductive reactance

(h) Unified Power Flow Controller (UPFC)

UPFC is a combination of STATCOM and a SSSC which are coupled via a common dc link to allow bidirectional flow of real power between the series output terminals of the SSSC and the shunt output terminals of the STATCOM and are controlled to provide concurrent real and reactive series line compensation without an external electric energy source. The UPFC, by means of angularly unconstrained series voltage injection, is able to control the transmission line voltage, impedance, and angle or, alternatively, the real and reactive power flow in the line.

(i) Generalized Unified Power Flow Controller (GUPFC)

GUPFC can effectively control the power system parameters such as bus voltage, and real and reactive power flows in the lines. A simple GUPFC consists of three converters, one connected in shunt and two connected in series with two transmission lines terminating at a common bus in a sub-station . It can control five quantities, i.e., a bus voltage and independent active and reactive power flows in the two lines.

(j) Inter-phase power controller (IPC)

IPC is a series-connected controller of active and reactive power consisting, in each phase, of inductive and capacitive branches subjected to separately phase shifted voltages. The active and reactive power can be set independently by adjusting the phase shifts and/or the branch impedances, using mechanical or electronic switches.

Benefits of FACTS controllers

FACTS controllers enable the transmission owners to obtain one or more of the following benefits:

1. Cost: Due to high capital cost of transmission plant, cost considerations frequently overweigh all other considerations. Compared to alternative methods of solving transmission loading problems, FACTS technology is often the most economic alternative.

2. Control of power flow to follow a contract, meet the utilities own needs, ensure optimum power flow, minimize the emergency conditions, or a combination thereof.

3. Contribute to optimal system operation by reducing power losses and improving voltage profile.

4. Increase the loading capability of the lines to their thermal capabilities, including short term and seasonal.

5. Provide greater flexibility in sitting new generation.

6. Reduce reactive power flows, thus allowing the lines to carry more active power.

So FACT controllers can be utilized to increase the transmission capacity, improve the stability and dynamic behaviour or ensure better quality in modern power systems. Their main capabilities are reactive power compensation, voltage control and power flow control.

Prof. Rajeev Kumar Chauhan

Asst. Prof. Electrical Engg. Dept.

GGITS, Jabalpur

INTERNET OF THINGS-AIDED SMART GRID

A traditional power grid consists of a large number of loosely interconnected synchronous Alternate Current (AC) grids. It performs three main functions: generation, transmission and

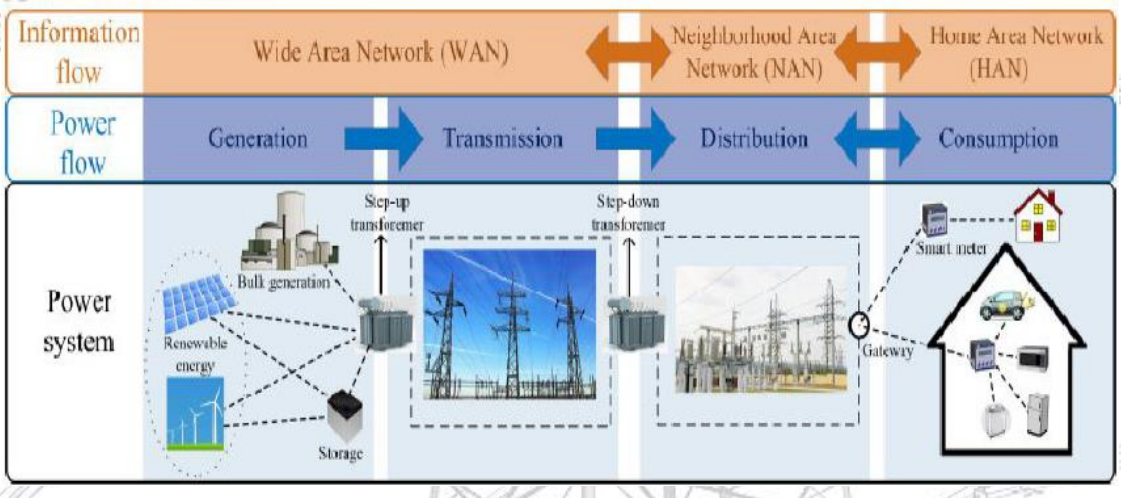
distribution of electrical energy in which electric power flows only in one direction, i.e., from a service provider to the consumers. Firstly in power generation, a number of large power plants generate electrical energy, mostly from burning carbon and uranium based fuels. Secondly in power transmission, the electricity is transmitted from power plants to remote load centers through high voltage transmission lines. Thirdly in power distribution, the electrical distribution systems distribute electrical energy to the end consumers at reduced voltage. Each grid is centrally controlled and monitored to ensure that the power plants generate electrical energy in accordance with the needs of the consumers within the constraints of power systems.

Nearly, all the generation, transmission and distribution of electrical energy is owned by the utility companies who provide electrical energy to consumers and bill them accordingly to recover their costs and earn profit. The traditional power grid worked very well from its inception in 1870 until 1970. Even though the consumers' demand for energy grew exponentially, it was still rather predictable. However, there has been a dramatic change in the nature of electrical energy consumption since 1970, as the load of electronic devices has become the fastest growing element of the total electricity demand and new sources of high electricity consumption have been developed, such as electric vehicles (EVs). The power grids endure a significant wastage of energy due to a number of factors, such as consumers' inefficient appliances and lack of smart technology, inefficient routing and dispensation of electrical energy, unreliable communication and monitoring, and most importantly, lack of a mechanism to store the generated electrical energy. Furthermore, power grids face some other challenges as well, including growing energy demand, reliability, security, emerging renewable energy sources and aging infrastructure problems to name a few. In order to solve these challenges, the Smart Grid (SG) paradigm has appeared as a promising solution with a variety of information and communication technologies. Such technologies can improve the effectiveness, efficiency, reliability, security, sustainability, stability and scalability of the traditional power grid. SG solves the problem of electrical energy wastage by generating electrical energy which closely matches the demand. SG helps to make important decisions according to the demand of energy, such as real time pricing, self healing, power consumption scheduling and optimized electrical energy usage. Such decisions can significantly improve the power quality as well as the efficiency of the grid by maintaining a balance between power generation and its usage. SG differs from traditional power grids in many aspects. For instance, SG offers a bi-directional communication flow between service providers and consumers, while a traditional power grid only offers only uni-directional communication from the service

provider to the consumer. SG provides supervisory control and data acquisition (SCADA), advanced metering infrastructure (AMI), smart meters, fault tolerance, unauthorized usage detection, and load balancing , as well as self-healing, i.e., detection and recovery from faults.

SG deploys various types of devices for monitoring, analyzing and controlling the grid. Such monitoring devices are deployed at power plants, transmission lines, transmission towers and distribution centers and consumers premises. The numbers of such devices is large. One of the main concerns for SG is the connectivity, automation and tracking of such large number of devices, which requires distributed monitoring, analysis and control through high speed, ubiquitous and two-way digital communications. It requires distributed automation of SG for such devices or "things". This is already being realized in the real world through the Internet of Things (IoT) technology.

IOT AS A PART OF SMART GRID



Prof. Vivek Kushwaha

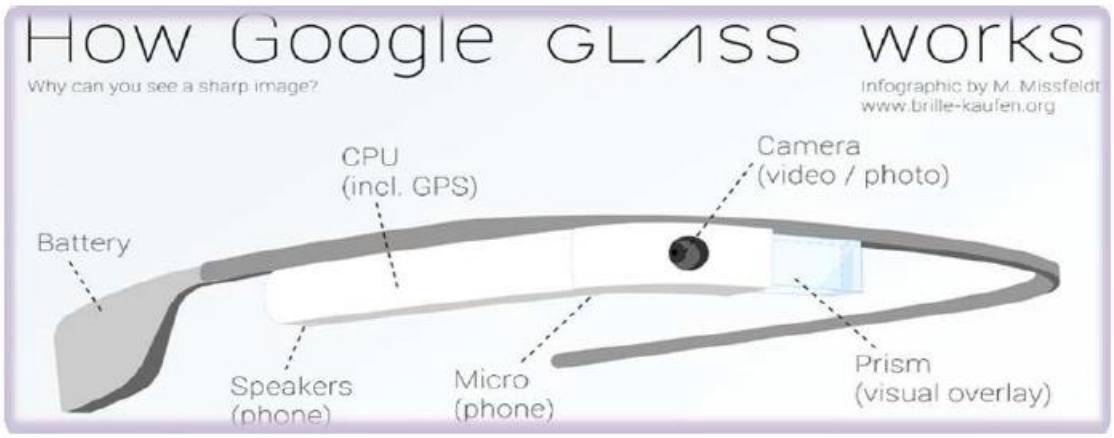
Asst. Prof. Electrical Engg. Dept.

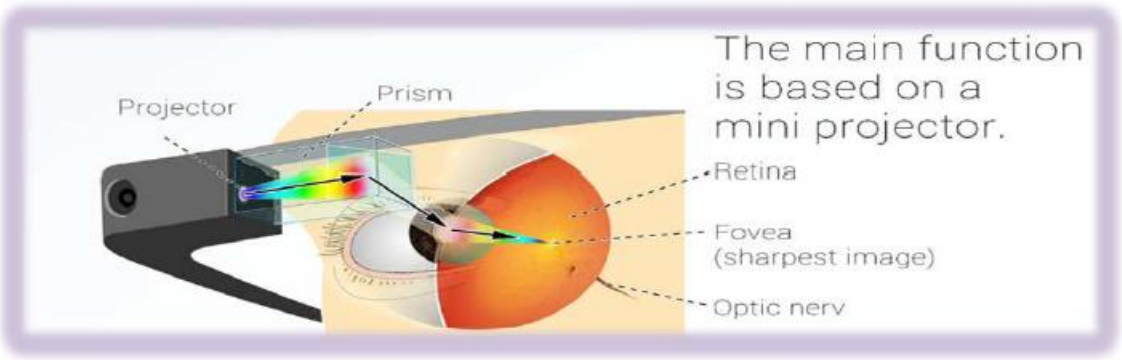
GGITS, Jabalpur

STUDENTS ARTICLES

GOOGLE GLASS

Project Glass is a research and development program by Google to develop an augmented reality Head Mounted display (HMD). The intended purpose of Google Glass would be the hands free displaying of information currently available to most smartphone users. Project Glass was started by Babak Parviz. Glass is being developed by Google X Lab and use 4G technology and communicate with mobile phones through Wi-Fi. It display content on video screen as well as respond to voice command of the user. Video Display has a small video display to display the pop up hands free information. It has the front facing video camera with which photos and videos can be taken in glimpse. Speaker is designed by the ear to make or receive calls. A single button on the side of the frame sophisticates the glasses to work with the physical touch input. A microphone is also put in, that can take the voice commands of the wearer of user. Microphone is also used for having telephonic communication.





Google glass features are you just say a word and Google Glass will take a picture or record a video. You will never have to touch the hardware. The photos and videos will be stored on the 4GB flash memory of the device, and can also be shared on social networking websites. Google Glass will show you text messages you receive and allow you to reply to them via voice commands. If you are in the habit of Googling things a lot. You simply need to ask a question and the device will pull the answer from the internet. Google Glass translate a

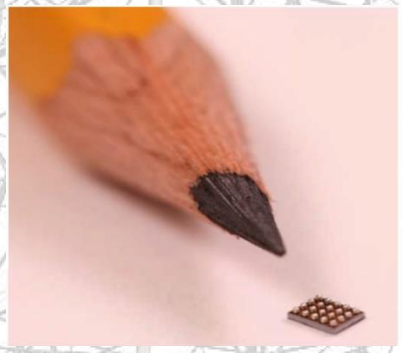
phrase or sentence from one language to another. The widely used Google Maps are integrated into Glass, so that users will be able to chart the course of their journey or look up locations or establishments via voice commands.

Google glass is easy to wear and use, sensitive and responsive to the presence of people, fast access of maps, documents, videos, chats and much more, a new trend for fashion lovers together being an innovative technology, a spectacle based computer to reside directly on your eyes rather than in your pouch or pocket, a useful technology for all kinds of handicapped/disabled people. But the main disadvantage is it can be easily broken or damaged, users will have a tough time taking care of it, it may lead to accidents while driving and privacy of people may breach with new glasses.

Ms. Anshul Mishra

MICROCONTROLLER FITS IN A USB TYPE-C CONNECTOR

Cypress Semiconductor is sampling a USB Type-C cable controller which includes power delivery (PD) on a small footprint. It is designed for use in 2.4mm thin USB Type-C cable connectors. The programmable EZ-PD CCG2 controller is capable of supporting any USB Type-(downstream facing port (DFP) or upstream facing port (UFP) applications. It is available in a 3.3 mm2 wafer level chip scale package (WLCSP) and is notable for integrating both the Type-(transceiver and termination resistors needed for Type-C communication.

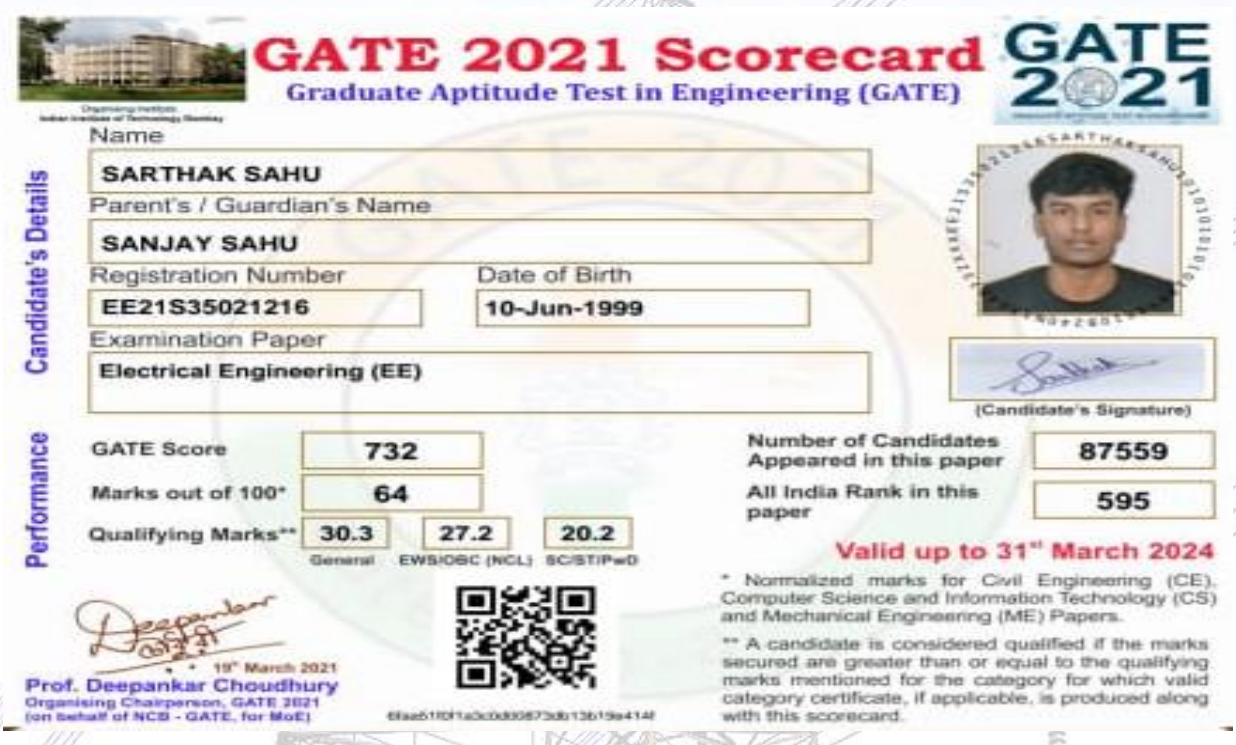


The USB Type-(standard is gaining rapid support with its ability to transmit multiple protocols and 1 OOW power delivery, which is a significant improvement over the previous 7 .SW standard. However, the Type-C standard requires an electronically marked cable assembly (EMCA) that can report the characteristics a cable supports, such as current carrying capability,

protocols supported, and vendor identification. A standard microcontroller may be used for the EMCA implementation, but it makes the design complex by requiring multiple external ICs and passive components. The EZ-PD CCG2 Type-(controller with its ARM Cortex-MO core has been designed to address this, with only five or fewer external components required. "This makes them suitable for passive and active EMCA cables, as well as for cable adapters that enable users to connect devices with a Type-C port to older devices with legacy ports such as Display Port or HDMI," said the supplier. The EZ-PD CCG2 controller comes with on-die system level ESD protection such as 8kV contact discharge, 15kV air discharge, which can eliminate the need for external protection components. The controller has 32kbyte of flash for storing firmware supporting upgrades during product development, in the production line, or in the field, a feature that will help with future USB-IF specification changes. The CYPD21 XX CCG2 Type-(Cable controller family is sampling and will be available for production in June. CCG2 is available in 20-ball WLCSP and 14-pin DFN packages.

Mr. Ronak Sen

Sarthak Sahu of 8th Semester EE Department has Qualified **GATE - 2021** with **AIR – 595.**



GATE 2021 Scorecard

Graduate Aptitude Test in Engineering (GATE)

GATE 2021

Candidate's Details

Name

SARTHAK SAHU

Parent's / Guardian's Name

SANJAY SAHU

Registration Number

EE21S35021216

Date of Birth

10-Jun-1999

Examination Paper

Electrical Engineering (EE)

(Candidate's Signature)

Performance

GATE Score	732			
Marks out of 100*	64			
Qualifying Marks**	30.3	27.2	20.2	
	General	EWS/OBC (NCL)	SC/ST/PwD	

Number of Candidates Appeared in this paper: 87559

All India Rank in this paper: 595

Valid up to 31st March 2024

* Normalized marks for Civil Engineering (CE), Computer Science and Information Technology (CS) and Mechanical Engineering (ME) Papers.

** A candidate is considered qualified if the marks secured are greater than or equal to the qualifying marks mentioned for the category for which valid category certificate, if applicable, is produced along with this scorecard.

19th March 2021

Prof. Deepankar Choudhury

Organising Chairperson, GATE 2021

(on behalf of NCB - GATE, for MoE)

Expert Lectures, Workshops, Webinars Organised by the Department

- Expert Lecture on **"**Raising Student Motivation During the Pandemic**"** was conducted by the Department under SSI on 18-11-2020 through **Online Mode.**

  Resource Person: Mr. Rahul Bajaj Managing Director RM Solar Green Energy Pvt. Ltd. Rewa

- Webinar on "Electrical Engineering Opportunities In Public/Industrial Sectors" was conducted by the Department under EES on 31-10-2020 through **Online Mode.**

  Resource Person: Mr. K. K. Murti, Retd. Chief Engineer, MPPKVVCL, Jabalpur,

- Webinar on "Recent trends in Electrical Technology" was conducted by the Department under EES on 15-09-2020 through **Online Mode.**

  Resource Person: Mr. J.P Giri Assistant Engineer PGCIL, Jabalpur

- Guest Lecture on **"Challenges and Opportunities: Core Companies, Higher Education and Entrepreneurship"** is delivered by Ms. Mukta Dengra, Asst. Prof., T&P Cell, GGITS, Jabalpur for final and pre-final year students of the Department on 21/08/2020.

- Expert Lecture on **"Information Security in Electrical Power System"** was conducted by the Department under EES on 03-04-2021 through **Online Mode.**

  Resource Person: Dr. Vivek Chandra, GM & Head IT MPPKVVCL, Jabalpur

- Expert Lecture on **"Recent Trends & Future Aspects of Smart Grid"** was conducted by the Department under CTI on 20-03-2021 through **Online Mode.**

  Resource Person: Dr Ashok Kumar Tiwari Course Director and GM (Training) at CTI MPPKVVCL Jabalpur

- Mr. Vivek Singh, Engineer from Jabalpur Incubation Center, Jabalpur was conducted 3 days Workshop on "**Design of PCB & Application of IOT**" in the department from 21/01/2021 To 23/01/2021.

- Hands-on Training on **"Basic Component Used in Electrical Circuits"** was conducted by the Department under EES from 15/09/2021 to 20/09/2021**.**

  Resource Person: Mr. Vivek Kushwaha, Asst. Prof., EE Department, GGITS, Jabalpur.

Faculty Development Programs and Training Programs Organised by the Department

- Six Days online STTP on (3/3) "Enhancement in Loadability of EHV Transmission System: Reduction in Line Losses" Conducted by the Electrical Engineering Department, GGITS Jabalpur, from 15/12/2020 to 20/12/2020.

  Co-ordinator: Prof. Rajeev Kumar Chauhan, Asst. Prof. EE Department, GGITS, Jabalpur.

- Six Days online STTP on (2/3) "Enhancement in Loadability of EHV Transmission System: Reduction in Line Losses" Conducted by the Electrical Engineering Department, GGITS Jabalpur, from 16/11/2020 to 21/11/2020.

  Co-ordinator: Prof. Rajeev Kumar Chauhan, Asst. Prof. EE Department, GGITS, Jabalpur.

- ATAL online Elementary FDP on "Electric Vehicle" from 01/09/2020 to 05/09/2020 organized by AICTE ATAL Academy at GGITS Jabalpur.

  Co-ordinator: Prof. Shalini Vaishya, Asst. Prof. EE Department, GGITS, Jabalpur.

- Six Days online STTP (1/3) on "Enhancement in Loadability of EHV Transmission System: Reduction in Line Losses" Conducted by the Electrical Engineering Department, GGITS Jabalpur, from 17/08/2020 to 22/08/2020.
  Co-ordinator: Prof. Rajeev Kumar Chauhan, Asst. Prof. EE Department, GGITS, Jabalpur.

- **Mr. Mohd. Asad Mansoori, Mr. Anuj Patel and Mr. Shiwansh Dwivedi** have been awarded the certificate of the online course on **"Geospatial Inputs for Enabling Master Plan Formulation"**. The course was conducted by **Indian Institute of Remote Sensing (IIRS)**, during **27-07-2020 to 31-07-2020** . The participant has attended the course at IIRS outreach network centre, **Gyan Ganga Institute of Technology and Sciences Jabalpur**.

- **Yashika Sharma** of 6th Semester EE Department has presented an idea on **"Innovation in Healthcare Support Systems**" in the two days online Workshop on **"Healthcare Innovations during COVID Outbreak"** organized by Computer Science and Engineering Discipline, at PDPM Indian Institute of Information Technology, Design and Manufacturing, Jabalpur during June 25-26, 2021.

- **Nikita Kori** has participated in "(Hands on Work) HOW" Workshop on Electrical Engineering is conducted by Trivedi Institute of skill development and training (TIST) held on 18/01/2021.

- **Shivangini Dehriya, Mohd. Asad Mansoori, Suryan Shrivastava and Priyanshi Mishra** have been awarded with Participation Certificate in the category **"Barriers in accessing adequate health care services"** for presenting a prototype/ innovative solution of **"Dynamic Health Monitoring System"** under the theme **"India's Economic Recovery Post Covid; Reverse Migration and Rehabilitation Plan to support Atmanirbhar Bharat".**

GYAN GANGA GROUP OF INSTITUTIONS ISO 9001:2008 CERTIFIED Committed for Excellence

Top Placements

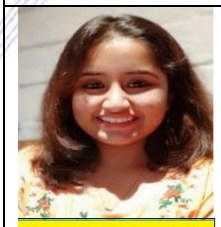
of the

Electrical Engineering Department

Batch 2017 - 21

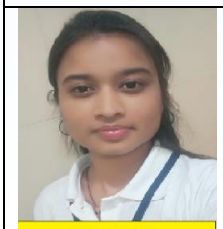
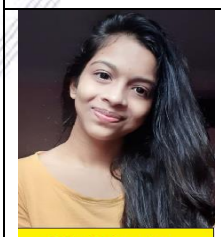
CONGRATULATIONS

 Sarthak Sahu	GATE 2021 AIR - 595 VVDN TECHNOLOGIES 3 Lac Per Annum	**Training/Certifications Done** Cisco Networking Academy-CCNA, Devnet Associate, Linux, Python, C, C++, Microsoft, IBM, AWS cloud certification, spoken tutorial IIT Bombay, Technical Training by Dept., NPTEL Lecture **E-mail ID & Contact No.** sahusarthak138@gmail.com /9165744020
 Yawar Yasir Yaqoob	Persistent 4.51 Lac Per Annum	**Training/Certifications Done** Cisco Networking Academy-CCNA, Devnet Associate, Linux, Python, C, C++, Microsoft, IBM, AWS cloud certification, spoken tutorial IIT Bombay **E-mail ID & Contact No.** yawaryasir07@gmail.com / 6006699306
 Palash Kori	Persistent 4.51 Lac Per Annum	**Training/Certifications Done** Cisco Networking Academy-CCNA, Devnet Associate, Linux, Python, C, C++, Microsoft, IBM, AWS cloud certification, spoken tutorial IIT Bombay **E-mail ID & Contact No.** palashkori7@gmail.com / 8839020101

 Shrishti Rai	accenture 4.5 Lac Per Annum	**Training/Certifications Done** Cisco Networking Academy-CCNA, Devnet Associate, Linux, Python, C, C++, Microsoft, IBM, AWS cloud certification, spoken tutorial IIT Bombay. **E-mail ID & Contact No.** shrishtirai12345@gmail.com / 7415786261
 Shashwat Shrivastava	accenture 4.5 Lac Per Annum TATA CONSULTANCY SERVICES 3.36 Lac Per Annum	**Training/Certifications Done** Cisco Networking Academy-CCNA, Devnet Associate, Linux, Python, C, C++, Microsoft, IBM, AWS cloud certification, spoken tutorial IIT Bombay **E-mail ID & Contact No.** shashwats374@gmail.com / 7415599338
 Nayonika Chakraborty	accenture Collabera Value. Accelerated. 4.5 Lac Per Annum 3 Lac Per Annum Capgemini 3.8 Lac Per Annum	**Training/Certifications Done** Cisco Networking Academy-CCNA, Devnet Associate, Linux, Python, C, C++, Microsoft, IBM, AWS cloud certification, spoken tutorial IIT Bombay **E-mail ID & Contact No.** cnayonika134@gmail.com / 7694978134
 Kainat Khan	accenture Collabera Value. Accelerated. 4.5 Lac Per Annum 3 Lac Per Annum	**Training/Certifications Done** Cisco Networking Academy-CCNA, Devnet Associate, Linux, Python, C, C++, Microsoft, IBM, AWS cloud certification, spoken tutorial IIT Bombay **E-mail ID & Contact No.** Kainat847@gmail.com / 8349403548

 Pooja Okte	Artech INFORMATION SYSTEMS Achieving Every Day™ 3.84 Lac Per Annum	**Training/Certifications Done** Cisco Networking Academy-CCNA, Devnet Associate, Linux, Python, C, C++, Microsoft, IBM, AWS cloud certification, spoken tutorial IIT Bombay **E-mail ID & Contact No.** poojaokte023@gmail.com / 9131151063
 Shubhum Agrawal	HEXAWARE 3.5 Lac Per Annum	**Training/Certifications Done** Cisco Networking Academy-CCNA, Devnet Associate, Linux, Python, C, C++, Microsoft, IBM, AWS cloud certification, spoken tutorial IIT Bombay **E-mail ID & Contact No.** sagrawal655@gmail.com / 9407107282
 Ankita Kesharwani	Nityo Infotech Transforming Business Intelligence 3.35 Lac Per Annum	**Training/Certifications Done** Cisco Networking Academy-CCNA, Devnet Associate, Linux, Python, C, C++, Microsoft, IBM, AWS cloud certification, spoken tutorial IIT Bombay **E-mail ID & Contact No.** ankitagupta262000@gmail.com / 7566789574
 Anansha Singh	Collabera Value. Accelerated. 3 Lac Per Annum	**Training/Certifications Done** Cisco Networking Academy-CCNA, Devnet Associate, Linux, Python, C, C++, Microsoft, IBM, AWS cloud certification, spoken tutorial IIT Bombay **E-mail ID & Contact No.** singhanansha77059@gmail.com / 9340754158

 Aman Kesharwani	POLYCAB INDIA LIMITED 3 Lac Per Annum	**Training/Certifications Done** Python, C, C++, Microsoft, spoken tutorial IIT Bombay, Technical Training by Dept., NPTEL Lecture, MATLAB, SCADA, PLC, MI-Power **E-mail ID & Contact No.** amankesharwani860@gmail.com / 9755700408
 Ritik Keshwarwani	MANIKARAN POWER LTD 3 Lac Per Annum; DFE 2.5 Lac Per Annum	**Training/Certifications Done** Python, C, C++, Microsoft, spoken tutorial IIT Bombay, Technical Training by Dept., NPTEL Lecture, MATLAB, SCADA, PLC, MI-Power **E-mail ID & Contact No.** ritikkesharwani50623@gmail.com / 7999673165
 Mayank Pyasi	BUREAU VERITAS Shaping a World of Trust 3 Lac Per Annum; DFE 2.5 Lac Per Annum	**Training/Certifications Done** Python, C, C++, Microsoft, spoken tutorial IIT Bombay, Technical Training by Dept., NPTEL Lecture, MATLAB, SCADA, PLC, MI-Power **E-mail ID & Contact No.** mayank.pyasi.ee17@ggits.net / 7509940182
 Prashashti Shrivastava	BUREAU VERITAS Shaping a World of Trust 3 Lac Per Annum	**Training/Certifications Done** Python, C, C++, Microsoft, spoken tutorial IIT Bombay, Technical Training by Dept., NPTEL Lecture, MATLAB, SCADA, PLC, MI-Power **E-mail ID & Contact No.** shrivastavap1811@gmail.com / 7999511458
 Mohit Chaturvedi	DFE 2.5 Lac Per Annum	**Training/Certifications Done** Python, C, C++, Microsoft, spoken tutorial IIT Bombay, Technical Training by Dept., NPTEL Lecture, MATLAB, SCADA, PLC, MI-Power **E-mail ID & Contact No.**

		mohitnotdefined@gmail.com / 9522334033
 Riya Nema	2.5 Lac Per Annum	**Training/Certifications Done** Python, C, C++, Microsoft, spoken tutorial IIT Bombay, Technical Training by Dept., NPTEL Lecture, MATLAB, SCADA, PLC, MI-Power **E-mail ID & Contact No.** riyanema24@gmail.com / 7999677156
 Shubhraj Singh Thakur	2.5 Lac Per Annum	**Training/Certifications Done** Python, C, C++, Microsoft, spoken tutorial IIT Bombay, Technical Training by Dept., NPTEL Lecture, MATLAB, SCADA, PLC, MI-Power **E-mail ID & Contact No.** shubhraj.thakur@gmail.com / 7898354711
 Abha Gajendra	2.5 Lac Per Annum	**Training/Certifications Done** Python, C, C++, Microsoft, spoken tutorial IIT Bombay, Technical Training by Dept., NPTEL Lecture, MATLAB, SCADA, PLC, MI-Power **E-mail ID & Contact No.** abha26gajendra98@gmail.com / 8962661289
 Ratnakar Nayak	2.5 Lac Per Annum	**Training/Certifications Done** Python, C, C++, Microsoft, spoken tutorial IIT Bombay, Technical Training by Dept., NPTEL Lecture, MATLAB, SCADA, PLC, MI-Power **E-mail ID & Contact No.** ratnakar525@gmail.com / 9589472161