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DEPARTMENT OF
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ENGINEERING

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UNIVERSITY COLLEGE OF ENGINEERING KAKINADA (A)
JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA

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FACULTY ACHIEVEMENTS

- Dr. T. Murali Mohan, Professor, Department of Electrical and Electronics Engineering, successfully completed the Short-Term Training Programme on **“Next-Gen Energy Systems: Digitalization, Storage & Sustainability”** organized by the Centre for Clean Energy and Circular Economy and the Department of Electrical Engineering, National Institute of Technology (NIT) Calicut, Kerala, from 4th to 8th May 2026. The programme provided valuable insights into emerging trends in energy digitalization, energy storage technologies, sustainable energy systems, and their role in shaping the future of the power sector.
- Dr. T. Murali Mohan, Professor, participated in the Five-Day Online Faculty Development Programme on **“Research Paper Writing”** organized by the Departments of EEE and MBA, Swarnandhra College of Engineering and Technology, from 11th to 15th May 2026. The programme enhanced his knowledge of research methodology, publication ethics, AI tools for research, and scientific paper writing.



- Dr. C. Naga Kota Reddy, Assistant Professor (C), presented a research paper titled **“Evaluation of THD in Interleaved Switched-Boost Common-Ground Multilevel Inverter”** at the AICTE-Sponsored 2nd International Conference on Advanced and Global Engineering Challenges (ICAGEC-2K26) organized by the Department of Electrical and Electronics Engineering, Aditya University, on 8th and 9th May 2026.
- Sri V.S.N.K. Chaitanya, Assistant Professor (C), successfully completed the 12-week NPTEL course on **“Operation and Planning of Power Distribution Systems”** offered by IIT Guwahati in May 2026. The course enhanced his knowledge of power distribution network planning, operation, analysis, and modern distribution system management practices.
- Sri. N. Sagar Teja, Assistant Professor (C), and Dr. V. Shanmukha Naga Raju, Assistant Professor(C), participated in a Three-Day Hands-On Workshop on **“Industrial Motor Control Systems (Stepper & Induction Motors)”**, organized by Amara Raja Skill Development Centre-2, Diguvmagham, Chittoor, from 7th to 9th May 2026. The workshop provided practical training on stepper motor control and applications, induction motor control fundamentals, Delta automation systems, PLC integration, and star-delta starter kits, enhancing participants' knowledge and hands-on skills in industrial motor control and automation technologies.



INTERNSHIPS

The following III B.Tech students of EEE Department, have been selected for the 3-2 Internship (2 months) at Reputed companies.

Heartiest congratulations to all the students for securing good internship opportunities in leading organizations.

Name of the company	Number of students
BHARAT ELECTRONICS LIMITED	2 (23021A0222,252)
ORDANCE FACTORY MEDAK	1 (23021A0242)
BHARAT HEAVY ELECTRICALS LIMITED - HEEP	1 (23021A0238)
TTE Electronics India Private Limited	1 (23021A0210)
OIL AND NATURAL GAS CORPORATION - ONGC KAKINADA	8 (23021A0202, 203, 206,214,230, 236, 241, 247)
COROMANDEL INTERNATIONAL	3 (23021A0214, 216, 229)
DR. NTPPS (AP GENCO TRAINING INSTITUTE)	8 (23021A0209, 220 227, 232, 234, 235, 240, 24025A0254)
AP TRANSCO, VIJAYAWADA	1 (23021A0212)

Name of the company	Number of students
TG TRANSCO	1 (23021A0207)
SAI SUDHIR ENERGY LIMITED	13 (23021A0205, 211, 217, 218, 219, 221, 225, 226, 228, 231, 246, 251, 24025A0258)
VIKHYAT EV MOTORS	11 (23021A0201, 208, 215, 239, 253, 24025A0255, 256, 257, 259, 260, 2201A0253)
GSSOC OPEN SOURCE ORGANIZATION	1 (23021A0243)
RenEV	3 (23021A0244, 249, 250)
DR. NTPPS (AP GENCO OPERATION & MAINTENANCE)	2 (23021A0233,237)
GAS AUTHORITY OF INDIA LIMITED (GAIL)	1 (23021A0224)
HMIES SOLUTIONS	1 (23021A0204)

INTERNSHIPS

The following M.Tech students of EEE Department, have been selected for the Internship (2 months) after 1st year at Reputed companies.

Heartiest congratulations to all the students for securing good internship opportunities in leading organizations.

M.Tech (HVE)

Name of the company	Number of students
SPARKIL	8 - (25021D0801,804, 805, 806, 807, 808, 809, 810, 811)

M.Tech (AEPS)

Name of the company	Number of students
IIT TIRUPATI	1 - (25021D3413)
ONGC	2- (25021D3401, 3403)
RISHA POWER SOLUTION AND CONSTRUCTION	6- (25021D3404, 3409, 3410, 3411, 3416, 3417)
INDUS POWER SYSTEM	3 - (25021D3412, 3414, 3419)
GREEN CHIP ENERGY	2 - (25021D3406, 3418)
SLBHES	1 - (25021D3408)

M.Tech (PED)

Name of the company	Number of students
NSTL, DRDO	1- (25021D5201)
Dr. NTPS	8 - (25021D5203, 5205, 5208, 5210, 5213, 5215, 5216, 5217)
VECTOR TECHNICS PVT LTD	4- (25021D5204, 5206, 5207, 5214)

UPQC – Unified Power Quality Conditioner

The modern power system is facing various power quality problems such as voltage sag/swell, harmonics, unbalanced load, voltage flicker and interruptions. These problems not only affect the performance and life of sensitive equipment but also increase losses and reduce the reliability of the system. The Unified Power Quality Conditioner (UPQC) is a custom power device that solves multiple power quality problems simultaneously. It is the combination of two custom power devices: DVR (Dynamic Voltage Restorer) and DSTATCOM (Distribution STATic COMPensator) connected together through a common DC link.

WHAT IS UPQC?

UPQC (Unified Power Quality Conditioner) is a combination of Series Active Power Filter and Shunt Active Power Filter connected via a common DC link. It can compensate for both voltage and current related problems in the power system. The series converter controls the voltage injected in series with the line to compensate for voltage disturbances, while the shunt converter injects current to the system to eliminate harmonics, reactive power and unbalance.



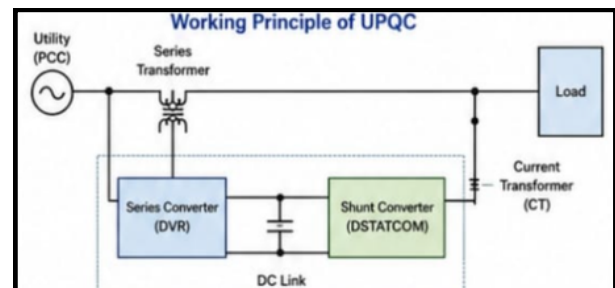
key features

- **Simultaneous compensation:** It can compensate voltage and current related power quality issues.
- **Voltage regulation:** It mitigates voltage sag, swell and interruptions.
- **Harmonic suppression:** It eliminates harmonics from the load current.
- **Reactive power compensation:** It provides reactive power support.
- **Load balancing:** It mitigates unbalanced loads.
- **Fast dynamic response:** It gives fast and accurate compensation.

- **Improved reliability:** It improves the reliability and efficiency of the power system.
- **Protects sensitive loads:** It ensures clean and stable power supply to critical loads.

Working principle

The UPQC consists of two voltage source converters (VSCs) — one connected in series and the other in shunt — sharing a common DC link. The series converter injects a voltage in series with the line through a series transformer to compensate for voltage disturbances. The shunt converter injects a current in parallel with the line to compensate for current related problems such as harmonics, reactive power and unbalanced load.



Applications of UPQC

- Industrial plants (sensitive equipment protection)
- IT parks and data centers
- Hospitals and commercial buildings
- Renewable energy systems (wind, solar)
- Power distribution systems
- Railway and metro systems



In conclusion, the UPQC is a powerful custom power device that addresses a wide range of power quality problems in modern power systems. It provides comprehensive compensation for both voltage and current disturbances, ensuring clean, stable and reliable power supply to sensitive loads. With the growing demand for power quality and the integration of renewable energy sources, the UPQC plays a vital role in ensuring a robust and efficient power system.

CH. Jaya Surya
I M.Tech
25021D3407

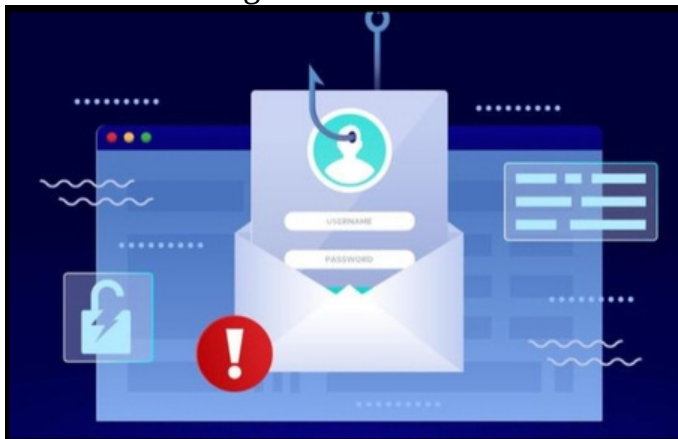
Cyber security and digital safety

The rapid growth of the internet, smartphones, and digital technologies has transformed modern life. While technology offers convenience and connectivity, it also exposes users to cyber threats such as hacking, phishing, malware, identity theft, and data breaches. Cyber security awareness plays a crucial role in protecting personal information, financial assets, and organizational data from cybercriminals.

WHAT IS CYBER SECURITY AWARENESS?

Cyber security awareness refers to understanding cyber threats and adopting safe online practices to protect digital devices, networks, and sensitive information. It helps individuals recognize potential risks and take preventive measures against cyber attacks.

Cyber security awareness is essential for students, businesses, and internet users to ensure a safe digital environment.



KEY FEATURES OF CYBER SECURITY AWARENESS

- **Password Security:** Use strong and unique passwords containing letters, numbers, and special characters. Avoid sharing passwords with others.
- **Phishing Prevention:** Be cautious of suspicious emails, messages, or links that attempt to steal personal information.
- **Safe Internet Browsing:** Visit trusted websites and avoid downloading files from unknown sources.
- **Software Updates:** Regularly update operating systems, applications, and antivirus software to fix security vulnerabilities.
- **Data Protection:** Protect sensitive information through encryption, secure storage, and regular backups.
- **Multi-Factor Authentication (MFA):** Enable additional verification methods to improve account security.

MAJOR CYBER THREATS

- **Phishing Attacks** – Fake emails or messages designed to steal credentials.
- **Malware** – Harmful software such as viruses, worms, and ransomware.
- **Identity Theft** – Unauthorized use of personal information.
- **Password Attacks** – Attempts to guess or crack user passwords.
- **Social Engineering** – Manipulating people into revealing confidential information.
- **Data Breaches** – Unauthorized access to sensitive data



CHALLENGES OF CYBER SECURITY

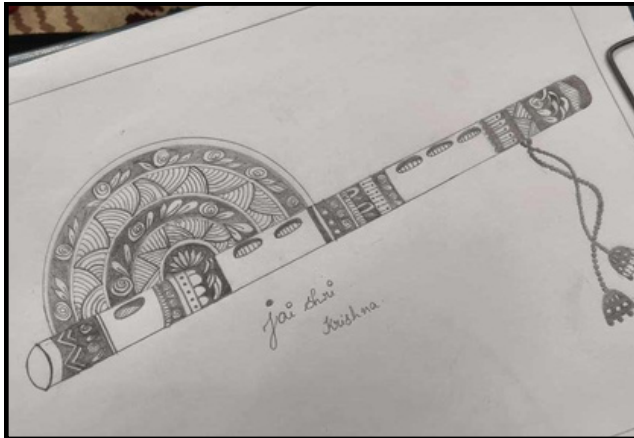
- **Increasing cyber Attacks :** Cyber criminal continuously develop new attack techniques.
- **Lack of Awareness:** Many users are unaware of common cyber threats and security practices.
- **Human Errors:** Weak passwords, accidental data sharing, and careless browsing increase security risks.
- **Rapid Technological Changes:** New technologies create additional security challenges.
- **Privacy Concerns:** Protecting personal and organizational data remains a major issue.

CONCLUSION

Cyber security awareness is essential in today's digital world. By understanding cyber threats and following safe online practices, individuals and organizations can protect their data, privacy, and digital assets. A cyber-aware society is the foundation of a safer digital future.

G.Jhansi
II B.Tech
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ARTS AND CULTURALS



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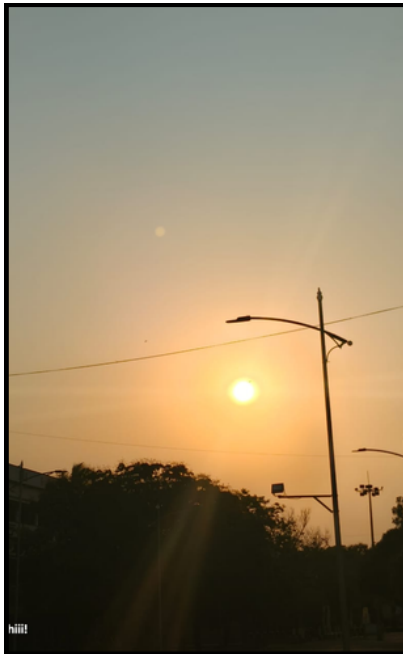
PHOTOGRAPHY



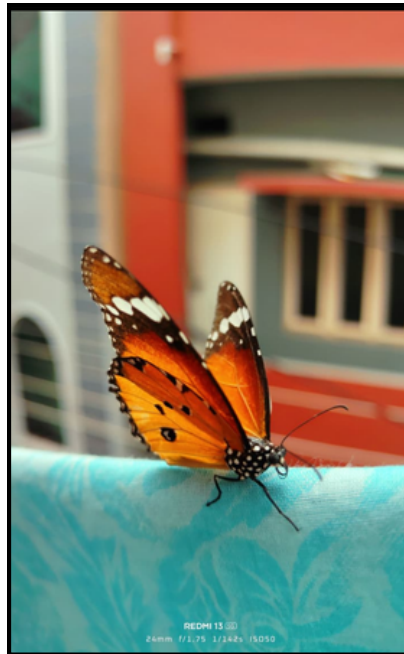
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