



# **SNS COLLEGE OF TECHNOLOGY**

## **(An Autonomous Institution)**



# **UNIT-IV- power quality audit**



# power quality audit



- A power quality audit is a comprehensive assessment of the electrical power supplied to a facility or system to ensure that it meets certain standards and requirements. Power quality refers to the reliability and stability of electrical power, and poor power quality can lead to various issues such as voltage fluctuations, harmonic distortions, and frequency variations. A power quality audit aims to identify and address these issues to optimize the performance of electrical equipment and systems.
- Here are some key aspects typically covered in a power quality audit:
- **Voltage Quality:**
  - Measurement of voltage levels and variations over time.
  - Assessment of voltage sags, swells, and interruptions.
  - Examination of voltage imbalance between phases.
- **Current Quality:**
  - Measurement of current levels and variations.
  - Analysis of harmonic currents and distortion.
- **Frequency Stability:**
  - Assessment of the stability of the power system frequency.
- **Harmonic Analysis:**
  - Identification and measurement of harmonic distortion in the power system.
  - Evaluation of the impact of harmonics on equipment.
- **Transient Analysis:**
  - Examination of transient events such as surges and spikes.



# power quality audit



- **Power Factor Analysis:**
  - Assessment of power factor and reactive power consumption.
- **Grounding and Bonding:**
  - Evaluation of the effectiveness of grounding and bonding systems.
- **Equipment Performance:**
  - Examination of the impact of power quality on the performance of sensitive equipment.
- **Voltage Flicker:**
  - Analysis of voltage flicker, which can affect the performance of lighting systems.
- **Data Logging:**
  - Continuous monitoring and recording of power quality parameters over an extended period.
- After conducting the audit, the findings are typically compiled into a report that includes recommendations for improvements. These recommendations may involve the installation of power quality mitigation devices, modifications to existing electrical systems, or changes in operational practices to enhance power quality.
- Power quality audits are especially important for industries and facilities where sensitive electronic equipment is used, as poor power quality can lead to equipment malfunction, reduced efficiency, and increased downtime. They can also be valuable for utilities to ensure that power delivered to customers meets established standards and regulations.



# THANK YOU