



# INSTITUTE OF INFRASTRUCTURE, TECHNOLOGY, RESEARCH AND MANAGEMENT

(An Autonomous University established by Government of Gujarat)

## Department of Electrical and Computer Science Engineering

### Proposed Training Programs

Topics	Major-topics to be covered during training
Semiconductor Fabrication: Techniques and Technology	<ul style="list-style-type: none"> <li>Fundamentals of Semiconductor Physics</li> <li>Concepts of Semiconductor Device Technology</li> <li>Wafer Processing and Clean Room</li> <li>Unit Processes for Semiconductor Fabrication</li> <li>CMOS and IC fabrication technology</li> <li>Hands-on session</li> <li>Virtual fabrication and design tools</li> </ul>
Energy Audit	<ul style="list-style-type: none"> <li>Consumer/entity load assessment and profiling</li> <li>Evaluation of system unbalance and recommendations on potential solutions</li> <li>Assessment of reactive power consumption and resulting penalty. Recommendations on power factor correction solutions</li> <li>Measurement and analysis of electrical quantities using advanced equipment/analyzer for assessment of energy consumption and power quality</li> <li>Assessment of lighting and HVAC requirements and recommendations on energy efficient schemes</li> <li>Assessment of scope of smart appliances and recommendations</li> <li>Evaluation of necessity of circuit breakers, earthing, protection and safety measures</li> </ul>
Drones: Design, Control, and Navigation with DGCA-Certified Drone Pilot License	<p><b>Fundamentals of Drones and Assembly</b></p> <ul style="list-style-type: none"> <li>Introduction to Drones and UAV Technology</li> <li>Drone Classifications and Components</li> <li>Aerodynamics and Propulsion Systems</li> <li>DGCA Regulations and Legal Compliance</li> <li>Hands-on drone assembly and calibration</li> <li>Sensors and Control Systems</li> <li>Battery Management and Power Systems</li> <li>Troubleshooting and Maintenance</li> </ul> <p><b>Drone Flying Training and Certification</b></p> <ul style="list-style-type: none"> <li>Manual and Autonomous Flying Techniques</li> <li>Flight Control and Navigation Systems</li> <li>Flight Simulation Training</li> <li>Drone Flying Capabilities and Operational Safety</li> <li>Introduction to Drone Mapping and Surveying</li> <li>Flight Practice in Open Fields</li> <li>Final Flight Test and Certification</li> <li>Telemetry and Navigation for Drones</li> </ul>
Field Engineers of Municipal Corporations and Utilities	<ul style="list-style-type: none"> <li>Introduction to Electrical Infrastructure in Urban Settings</li> <li>Fundamentals of Electrical Systems</li> <li>Electrical Safety Protocols</li> <li>Integrated Energy Management with Public Utilities</li> <li>Interpretation of Electrical Drawings &amp; Single-Line Diagrams</li> <li>Lighting Design for Buildings</li> <li>Interactive Q&amp;A and Case Studies</li> <li>Reliability of Urban Electrical Infrastructure</li> <li>Transformer Testing &amp; Maintenance</li> <li>Backup Power Systems</li> <li>Preventive &amp; Predictive Maintenance</li> <li>Breakdown Response &amp; Escalation Procedures</li> <li>Interactive Demonstrations &amp; Case Studies</li> <li>Introduction to Emerging Technologies in Urban Infrastructure</li> <li>Advances in Drone Technology</li> <li>Battery Energy Storage Systems (BESS)</li> <li>Solar Power Systems</li> <li>Wind Energy Conversion Systems</li> <li>Transportation Electrification</li> <li>Future Outlook &amp; Smart City Integration</li> </ul>

**\*We tailor-make training programs to match your requirements**