DCT Micro Data Center

DESIGN, INSTALL AND CONFIGURE

Program Duration:

3 Days

Program Objectives

- Micro data centers: compact, efficient, modular units enhancing local data processing.
- Highlight micro data centre growth, business opportunities, and digital-age significance.
- Efficiently select UPS, fire suppression, cooling, monitoring for Micro Data Centre.
- Describe how to design a micro data centre setup based on current and future IT load needs.

Target Audience

The primary audience for this course is any IT, facilities, or data center professionals who work with server rooms, data centers and who are tasked with ensuring and enhancing the availability and manageability of server room or data centre environments.

Pre-requisites

No prerequisites for the DCT-DIC course; beneficial for beginners and those with data center experience.

Program Overview

The 3-day DCT MDC-DIC course provides foundational knowledge of Micro Data Centre (MDC) infrastructure, covering essential components like power, cooling, security, and safety. It prepares participants for careers in MDCs, Colo Data Centers, and ICT infrastructure by offering a pathway to further studies and specialized certifications.

DCT Micro Data Center Topics

a). Introduction to Micro Data Centres

- History of Micro Data Centers
- Definition of different types of Micro Data Centers
- Benefits of Micro Data Centers in Edge Computing
- Edge Micro Data Centre and its Relation to Business
- Micro Data Centre Application Areas

b). Micro Data Centre Standards

- List of standards
- Rating definitions

c). MDC Topology Designs

- Single Rack MDC
- Multi-Rack MDC
- Outdoor IP55/66 MDC
- Containerized solution

d). MDC Power Infrastructure

- Power Sources to a Micro Data Centre
  - Utility power
  - Generator power
  - Solar Power with Hybrid Inverters
- UPS systems and Batteries
  - IT Power load calculations
  - VLRA and Lithium Batteries
  - UPS design topologies
- ATS Automatic Transfer Switch deployment scenarios
  - Power Cables and Busbar systems
  - Power distribution board, rails/strips
  - Basic, Metered, and Intelligent PDUs.

e). MDC Lighting

- In-rack Lighting
- Strip indicator lights for visual in-rack operation status

DCT Micro Data Center Topics

f). MDC Cooling Infrastructure

- Differences between comfort and precision cooling
- DX cooling Systems - Rack Mounted Cooling that is integrated and split type.
- Cooling requirements calculations
- Emergency MDC cooling considerations and options

g). ICT/Network Infrastructure

- Equipment racks usable space for IT appliances
- Network cabling (fiber, copper)
- Cable trays and pathways

h). Micro Data Centre Security

- Physical protection
- CCTV
- Access control
- Security management

i).Fire Suppression

- Detection systems
- Suppression systems
- Prevention systems
- Fire extinguishers Rack Mount standalone type EMS
- Fire Safety

j).Monitoring and Reporting

- Monitoring considerations and requirements
- DCIM / EMS
- Alarm notification Visual, Audio, Relay signals, SMS, EMAIL, App
- Logs and reports