Certified Data Centre Professional (CDCP®)

Duration: **2 Days**

Course Description:

The CDCP® (Certified Data Centre Professional) is a 2-day course is designed to expose participants to the key components of the data centre. CDCP® training will address how to setup and improve key aspects such as power, cooling, security, cabling, safety etc. to ensure a high-available data centre.

Prerequisite:

There is no specific prerequisite for the CDCP® course. However, participants who already have at least one- or two-years' experience in a data centre or facilities environment may be best suited. Those with no experience just yet are most welcome to participate.

Course Objectives:

After completion of the course the participant will be able to:

- Choose an optimum site for mission-critical data centre based on current and future needs
- Describe all components that are important for high availability in a data centre and how to effectively setup the data centre
- Name and apply the various industry standards
- Describe the various technologies for UPS, fire suppression, cooling, monitoring systems, cabling standards, etc, and to select and apply them effectively to cost-efficiently enhance the high-availability of the data centre.
- Review the electrical distribution system to avoid costly downtime
- Enhance cooling capabilities and efficiency in the data centre by using existing and new techniques and technologies for the increased cooling requirements of the future
- Design a highly reliable and scalable network architecture and learn how to ensure installers apply proper testing techniques
- Setup effective data centre monitoring ensuring the right people get the right message
- Ensure proper security measures, both procedural and technical, are established to safeguard your company's valuable information in the data centre
- Select equipment racks and components suitable for ICT equipment and its cooling requirements
- Select the correct light levels for the various areas of the data centre.
- Select appropriate fire safety/protection controls to detect and suppress potential fire

Target Audience:

The primary audience for the CDCP® course is an IT, Facilities or Data Centre Operations professional working in and around the data centre (representing both end-customers and/or service provider/facilitators) and having responsibility to achieve and improve hi-availability and manageability of the Data Centre, such as: Data centre managers, Operations / Floor / Facility managers, data centre engineers, network/system engineers/data centre sales/consultants.

Course Outlines:

Data Centre Location, Building and Construction
- Selecting appropriate sites and buildings and how to avoid pitfalls
- Various components of an effective data centre and supporting facilities setup

Raised Floor/Suspended Ceiling
- Uniform, concentrated and rolling load definitions
- Applicable standards
- Raised floor guidelines
- Signal Reference Grid, grounding of racks
- Disability act and regulations
- Suspended ceiling usage and requirement

Light
- Standards
- Light fixture types and placement
- Emergency lighting, Emergency Power Supply (EPS)

Power Infrastructure
- Power infrastructure layout from generation to rack level
- ATS and STS systems
- Redundancy levels and techniques
- Three-phase and single-phase usage
- Power distribution options within the computer room
- Power cabling versus bus bar trunking
- Bonding versus grounding
- Common Mode Noise and isolation transformers
- Distribution boards, form factors and IP-protection grades
- Power quality guidelines
- Real power versus apparent power
- How to size and calculate load in the data centre
- Generators
- Static and dynamic UPS systems, selection criteria, how they operate and energy efficiency option
- Battery types, correct selection and testing
- Thermo-graphics
- Renewable Energy Factor (REF)

Electro Magnetic Fields
- Electrical fields and magnetic fields definitions and units of measurements
- Sources of EMF
- Effects of EMF on human health and equipment
- (H)EMP
- Standards
- EMF shielding solutions

Equipment Racks
- Rack standards, properties and selection criteria
- Security considerations
- Power rail/strip options

Cooling Infrastructure
- Temperature and humidity recommendations
- Cooling measurement units and conversion rates
- Sensible and latent heat definitions
- Differences between comfort and precision cooling
- Overview of different air conditioner technologies
- Raised floor versus non-raised floor cooling
- Placement of air conditioner units and limitations to be observed
- Supplemental cooling options
- Cold aisle/hot aisle containment
- Liquid immersion cooling
- Cooling concepts: Seasonal Thermal Energy Storage (STER)

Water Supply
- Importance of water supply and application areas
- Backup water supply techniques

Designing a Scalable Network Infrastructure
- The importance of a Structured Cabling System
- Planning considerations
- Copper and Fiber cable technology and standards
- ANSI/TIA-942 Cabling hierarchy and recommendations
- Testing and verification
- Network redundancy
- Building-to-building connectivity
- Network monitoring system requirements

Fire Safety/Protection
- Standards for fire suppression
- Detection systems
- Various total flooding fire suppression techniques and systems, their benefits and disadvantages
- Handheld extinguishers
- Signage and safety
- Regulatory requirements and best practices

Physical Security and Safety
- Physical security considerations
- Physical safety considerations

Auxiliary Systems
- Data centre monitoring requirements
- EMS, BMS and DCIM
- Water leak detection systems
- Alarm notification