Vendor:EXIN

Exam Code:CDCP

Exam Name: Certified Data Centre Professional (CDCP)

Version: Demo

QUESTION 1

Sprinkler heads used in computer rooms activate at what temperature?

A. 57 °C (135 °F)

B. 27 °C (81 °F)

C. 70 C (158 °F)

D. Only on direct contact with a flame

Correct Answer: A

Sprinkler heads used in computer rooms activate at 57 °C (135 °F),, which is the standard temperature rating for ordinary sprinklers. This is the temperature at which the heat-sensitive element of the sprinkler head, such as a glass bulb or a fusible link, breaks or melts, allowing water to flow from the sprinkler. Sprinkler heads are designed to activate only when exposed to a fire, not to ambient temperature fluctuations. Therefore, sprinkler heads should be installed at a sufficient distance from the heat sources, such as servers, racks, or ducts, to avoid accidental activation. Sprinkler heads should also be selected and installed in accordance with the relevant standards and codes, such as NFPA 13 and NFPA 75.

QUESTION 2

IP protection grades consist of two numbers.

Which levels of protection do they describe and what is the best protection?

A. First digit; protections against the ingress of solid objects. Second digit; protection against ingress of water/fluids. The lower the number the better the level of protection.

B. First digit; protections against the ingress of solid objects. Second digit; protection against ingress of water/fluids. The higher the number the better the level of protection.

C. First digit; protections against the ingress of water/fluids. Second digit; protection against ingress of solid objects. The higher the number the better the level of protection.

D. First digit; protections against the ingress of water/fluids. Second digit; protection against ingress of solid objects. The lower the number the better the level of protection.

Correct Answer: B

IP protection grades are a way of showing the effectiveness of electrical enclosures in blocking foreign bodies such as dust, moisture, liquids, and accidental contact. IP stands for Ingress Protection or International Protection, and it is defined by the international standard IEC 60529. IP ratings consist of the letters IP followed by two digits and an optional letter. The first digit indicates the level of protection the enclosure provides against access to hazardous parts and the ingress of solid foreign objects. The second digit indicates the level of protection the enclosure provides against the ingress of water or fluids. The higher the number, the better the level of protection. For example, IP65 means the enclosure is dust-tight and can withstand water jets from any direction. IP68 means the enclosure is dust-tight and can be submerged in water under specified conditions.

References: EPI Data Centre Training Framework, CDCP Preparation Guide, IP code - Wikipedia, [IP Ratings Explained | Ingress Protection Rating | IP Codes | Updated 2022]

QUESTION 3

Which Class of Fires involves energized electrical equipment?

A. Class A

B. Class B

C. Class C

D. Class K

Correct Answer: C

Class C fires involve energized electrical equipment, such as computers, servers, switches, cables, and wiring. These fires require the use of non-conductive extinguishing agents, such as carbon dioxide, dry chemical, or clean agent, to prevent electrical shock and damage to the equipment. Water-based extinguishers, such as Class A or K, are not suitable for Class C fires, as water can conduct electricity and cause electrocution or short circuits.

QUESTION 4

Escape route signage should be placed where?

A. Only at emergency escape doors

B. Only at the main entrance of the data centre building

C. At every door providing a pathway

D. At every door including riser doors, doors of storage closets etc.

Correct Answer: C

Escape route signage should be placed at every door providing a pathway to the exit or the assembly area, according to the CDCP Preparation Guide and the EU Safety/Health Signs Directive. Escape route signage is used to guide the occupants of the data centre fromwherever they are in the building, via a place of relative safety (the escape route), to the place of ultimate safety (the assembly area). Escape route signage should not be limited to only emergency escape doors or the main entrance of the data centre building, as these may not be accessible or visible from all locations. Escape route signage should also not include doors that do not lead to the exit or the assembly area, such as riser doors, doors of storage closets, or doors of other rooms, as these may confuse or mislead the occupants. Escape route signage should be placed at every door that provides a pathway to the exit or the assembly area, and should indicate the direction and distance of the escape route using pictograms, arrows, and words. Escape route signage should also be designed and installed in accordance with the relevant standards and codes, such as BS 5499 and ISO 7010.

QUESTION 5

Which Class of Fires involves ordinary combustible materials such as paper, wood and cloth?

A. Class A

B. Class B

C. Class D

D. Class K

Correct Answer: A

According to the CDCP Preparation Guide, Class A fires involve ordinary combustible materials such as paper, wood and cloth. These materials leave behind ash or embers when they burn. Class A fires can be extinguished by water or other cooling agents that reduce the temperature of the fuel below its ignition point.

QUESTION 6

When having two non-synchronized power sources, the ATS / STS need to be of the type:

A. Break before make.

B. Make before break.

C. Both make before break or break before make can be used.

D. Both an ATS and STS can never handle two non-synchronized sources.

Correct Answer: A

When having two non-synchronized power sources, the ATS / STS need to be of the type break before make, which means that the switch disconnects from one source before connecting to the other source. This prevents any short circuit, back feed, or phase mismatch that could occur if the two sources were connected simultaneously. Break before make switches are also known as open transition switches, because they create a brief interruption in the power supply during the switching process. This interruption is usually acceptable for most ICT equipment, as they have internal power supplies or batteries that can handle the transient. However, if the interruption is not acceptable, then the two power sources need to be synchronized before switching, which requires a make before break switch, also known as a closed transition switch. Make before break switches connect to the second source before disconnecting from the first source, which ensures a seamless transfer of power without any interruption. However, make before break switches require that the two sources have the same voltage, frequency, and phase, which can be achieved by using a synchronization module or a phase-locked loop.

QUESTION 7

Where should exit/emergency signs be located?

A. Depends on the policy of the data centre

B. At every escape door and pathways leading to doors (arrows)

C. In the Computer room only

D. At each door

Correct Answer: B

According to the EPI Data Centre Operations Standard (DCOS), exit/emergency signs should be located at every escape door and pathways leading to doors (arrows) to ensure a safe and quick evacuation in case of an emergency. This is also consistent with the best practices for data centre emergency preparedness and response, which

recommend having a clear and visible signage system for emergency exits.

QUESTION 8

A fire extinguisher in the data centre is found which is classed as ABC. Is this suitable?

A. Yes

B. Depends on the brand

C. Only for fires not related to electrical power

D. No

Correct Answer: D

A fire extinguisher in the data centre that is classed as ABC is not suitable, because it contains dry chemical powder that can damage the ICT equipment and the data. ABC fire extinguishers are designed to fight Class A, B, and C fires, which are fueled by combustible materials, flammable liquids or gases, and electrical equipment, respectively. However, the dry chemical powder can leave a corrosive residue on the ICT equipment, which can cause short circuits, data loss, or malfunction. Moreover, the dry chemical powder can be difficult to clean, especially from the small spaces and crevices of the ICT equipment. Therefore, ABC fire extinguishers are not recommended for data centres, and should be replaced with more suitable fire extinguishers, such as clean agent fire extinguishers, which use gas or liquid that does not leave any residue or harm the ICT equipment.

QUESTION 9

What is the minimum clearance space required below water sprinkler heads and nozzles of gas-based fire suppression systems?

A. 46 cm / 18 inches

B. 64 cm / 25 inches

C. 60 cm / 24 inches

D. 120 cm / 47 inches

Correct Answer: A

The minimum clearance space required below water sprinkler heads and nozzles of gas-based fire suppression systems is 46 cm / 18 inches, according to the CDCP Preparation Guide1 and OSHA regulation 29 CFR 1910.159 ?(10)2. This clearance space is necessary to ensure that the sprinkler spray or gas discharge can reach the fire and cover the protected area effectively. Any material or obstruction below this clearance space can interfere with the sprinkler or gas distribution and reduce the fire suppression performance. Therefore, building owners and managers should ensure that all storage and objects in the data centre are kept below this clearance space, and that the clearance space is maintained at all times.

QUESTION 10

What needs to be installed in the battery room when using Lithium-ion batteries?

A. A battery management system to monitor and prevent unsafe temperatures during charging/discharging.

B. High capacity air-conditioning equipment since Lithium-ion batteries are sensitive to high temperatures, which can reduce their lifetime.

C. A proper ventilation system since Lithium-ion batteries produce highly flammable Hydrogen gas during charging.

D. A proper supply of distilled water.

Correct Answer: A

According to the EPI Data Centre Training Framework, lithium-ion batteries are becoming more popular in data centres due to their higher energy density, longer lifespan, and lower maintenance costs compared to lead-acid batteries. However, lithium-ion batteries also have some drawbacks, such as higher initial cost, stricter safety requirements, and potential thermal runaway risks. Therefore, a battery management system (BMS) is essential to monitor and control the voltage, current, temperature, and state of charge of each battery cell or module, and to prevent overcharging, over-discharging, or overheating. A BMS can also communicate with the UPS system and provide information on the battery status, performance, and health.

QUESTION 11

Which design consideration should be implemented with an Inergen-based fire suppression system?

A. Install protective covers around the nozzles to avoid accidental gas dumps.

B. Install the gas containers (tanks) close to the data centre.

C. To use Inergen only for fires which are not related to electrical power.

D. Pressure relief valves are required in the room that needs protection.

Correct Answer: D

A design consideration that should be implemented with an Inergen-based fire suppression system is to install pressure relief valves in the room that needs protection. Inergen is a clean agent fire suppression system that uses a mixture of inert gases (nitrogen, argon, and carbon dioxide) to displace the oxygen in the room and extinguish the fire. However, when Inergen is released into the room, it creates a sudden increase in pressure, which can damage the walls, doors, windows, and ceilings of the room. To prevent this, pressure relief valves are required to vent the excess pressure to the outside and maintain a safe pressure level inside the room. Pressure relief valves should be designed and installed in accordance with the relevant standards and codes, such as NFPA 2001 and ISO 14520.

QUESTION 12

Do I need to check the local standards if I already comply to international standards?

A. Local standards do not to be checked as some countries have too many local standards, which will slow down the data centre construction.

B. You need to check the local standards to ensure compliance to these standards.

C. Compliance to only international standards is good enough as most local standards are derived from international standards.

D. Data centres only need to comply to international standards since they are connected to a worldwide international network infrastructure.

Correct Answer: B

Data centre design and infrastructure standards can vary from country to country, depending on the local regulations, codes, and practices. Therefore, it is important to check the local standards before designing, building, or operating a data centre in a specific location. Compliance to only international standards may not be sufficient or adequate to meet the local requirements, which could result in legal, financial, or operational risks. For example, some countries may have stricter fire safety, environmental, or energy efficiency standards than the international ones. Some countries may also have different electrical standards, such as voltage, frequency, or plug types. By checking the local standards, you can ensure that your data centre is compliant, safe, and efficient in the local context.