PrepKing

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PrepKing RF0-001

Exam A

QUESTION 1
Your company, Certkiller , has given you a project to implement an RFID based tracking system for a shopping center. The RFID system would be implemented for dock doors along with an active light based alert system. The light based alert system triggers an alarm when a dock door interrogator experiences a problem. What should you do?

A. Implement interrogators with dedicated I/O ports that are designed to add light-sensitive enunciators.
B. Installation of light-sensitive enunciators on the applications in the host RFID system.
C. Implement light-sensitive tags with dedicated I/O ports.
D. Installation of light-sensitive enunciators on the middleware in the host RFID system.

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Using interrogators with dedicated I/O ports that are designed to add light-sensitive enunciators will provide illumination for reading and viewing objects in low-light situations.

QUESTION 2
You are implementing and RFID system for animal identification for a dairy farm. To enable support for the anti-collision algorithm you require interrogators with frequencies below 135 KHz frequency. These interrogators comply with which air-interface standards?

A. ISO/IEC 18000-2:2004
B. ISO/IEC 18000-3:2004
C. ISO/IEC 18000-4:2004
D. ISO/IEC 18000-6:2004

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
ISO/IEC 18000-2:2004 defines the air interface for radio-frequency identification (RFID) devices operating below 135 kHz used in item management
Reference:www.rfidaa.org/standards

QUESTION 3
Certkiller is using wired RFID interrogators to read tags attached to clothing. Certkiller had plans to upgrade RFID interrogators based on wireless-based technology to communicate with other RFID devices and hosts. What wireless protocols you would need to enable the RFID interrogators to communicate with other RFID devices and hosts?

A. ZigBee
B. RS 485
C. Bluetooth

D. RS 422

Correct Answer: AC
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option A and C are correct choice. RS 485 and Bluetooth both wireless either of them could be used to enable RFID interrogators to communicate with other RFID devices and hosts. RS-422 wiring refers to cable and ZigBee(r) is a low-power, short-distance wireless standard.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 4
A manufacturing facility is using an RFID system that consists of three conveyors that are set up adjacent to each other and separated by a shield. Each conveyor system uses four antennas. You are experiencing some problem in reading tags; investigation revealed that several tags are not read by the system. The antenna orientation and read range is working fine and system shielding is also implemented successfully. What should you do to ensure that all the tags are read successfully?

A. Increase the power of the antennas.
B. Optimize the speed of the conveyor belt.
C. Remove the RFID shielding equipment.
D. Install more antennas.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
A reader in a single read cycle due to interference and other factors sometime cannot identify all tags. Optimizing speed of conveyor belt will ensure enough time for interrogators to read the tags.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 5
In what specific scenarios are RFID interrogators used?

A. When it is either impossible or inconvenient to move items to the interrogator.
B. When the tags to be read are in motion.
C. When you want to use barcode interrogators as RFID interrogators.
D. When tags are orientated on top of the items.

Correct Answer: A
Section: (none)

Explanation

Explanation/Reference:
Explanation:
RFID interrogators are used when it is impossible to move items to the interrogator. Interrogators are like a middle agent who collect information from the host computer and send it to the tag in their interrogation zone. The host computer cannot be moved or placed somewhere near the tags. It is also inconvenient for the tags to move near to the host computer to communicate. So interrogators are used to help the computer communicates with the tags.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 6
What components of an RFID system provide centralized control for RFID software components and are compatible with a wide range of enterprise applications?

A. Edge interface
B. Middleware
C. Enterprise back-end interface
D. Enterprise back-end

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Middleware is a data collection component. Middleware connects the data coming into a reader to the client's host software systems. Elements of middleware comprise of read and device management, data management, application integration and partner integration.
Reference:
www.dummies.com/WileyCDA/DummiesArticle/Examining-the-Elements-of-a-Basic-RFID-System.id-2990.htm

QUESTION 7
An RFID system is implemented in a manufacturing unit. It uses an anti-collision method in which each interrogator transmits a query to a specific tag using the unique ID (UID) number of that tag. Which anti-collision protocol is used to implement this anti-collision method?

A. Aloha
B. Adaptive binary tree
C. Q
D. Digital cipher

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
In Adaptive binary tree scheme the tags are required to manage a counter and have a random number generator. The colliding tags are split according to a number that they randomly select. The tags that select 0 transmit their ID's to the interrogator. If multiple tags select 0 and respond, the interrogator keeps walking down the tree until only one tag responds. When that happens the interrogator establishes communication with that tag to

get the required information.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 8
Your company, Certkiller , has given you a project to implement an RFID based tracking system in a facility. While implementing RFID system, you plan to deploy interrogators with upgradeable firmware. Which statement is NOT true for interrogators with upgradeable firmware?

A. Interrogators with upgradeable firmware have the capability to add future enhancements.
B. Interrogators with upgradeable firmware are cost effective.
C. Interrogators with upgradeable firmware are used to conform to either regulatory or legal bodies.
D. Interrogators with upgradeable firmware have the capability to fix bugs in existing firmware.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option C, upgradeable firmware, is not anyway linked to conforming to any standards regulatory, legal or any other. The basic purpose is to ensure compatibility and fix bugs in any existing version of firmware or support a new feature.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 9
Your company, Certkiller , has given you a project to implement an RFID based tracking system in a food processing company. You had plans to deploy interrogators at various dock doors in the facility; the tagged food products will be transported through these dock doors. NEMA 4 enclosures would be used for the interrogators. What is the advantage of using NEMA 4 enclosures?

A. Increased tag read rate
B. Protection from dust and water
C. Data security
D. Increased read range

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
NEMA 4 - Type 4 enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against windblown dust and rain, splashing water, and hose-directed water; and to be undamaged by the formation of ice on the enclosure.
Reference: www.stealthcomputer.com/faq_technology.htm

QUESTION 10
You need to deploy an RFID conveyor belt with a scan tunnel for a facility. What are the two main advantages of a using a scan tunnel? (Choose two.)

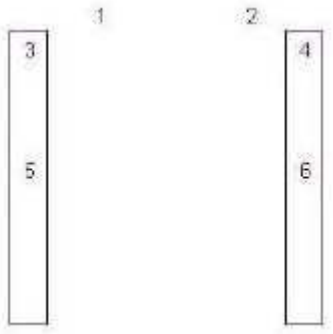
A. A scan tunnel collects RF energy.
B. A scan tunnel provides portability.

C. A scan tunnel provides a shield against static electricity.
D. A scan tunnel provides physical security to pallets or cartons.

Correct Answer: AB
Section: (none)
Explanation

Explanation/Reference:
Explanation:
A scan tunnel is a large frame with RF antennas mounted on it. It provides better portability and concentrated RFID energy in an enclosed space.
Reference: www.accuracybook.com/RFIDUpdate.htm

QUESTION 11
You need to deploy two interrogators on a dock door.



Dock Door's Front View
In order to obtain the best tag read rate which two positions should you deploy the interrogators?

A. 1 and 2
B. 3 and 4
C. 5 and 6
D. 1 and 6

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Placing the interrogators in the central position (5 and 6) on dock doors would ensure best tag read rate.
Reference: www.rfidjournal.com/magazine/article/1931

QUESTION 12
Which statements are true of hand-held interrogators? (Choose all that apply.)

A. Hand-held interrogators are more expensive than other types of interrogators.
B. Hand-held interrogators have less chances of tag collision.
C. Hand-held interrogators consist of built-in antennas.
D. Hand-held interrogators are more dust-resistant than other types of interrogators.

Correct Answer: AC

Section: (none)
Explanation

Explanation/Reference:
Explanation:
Hand held interrogators are designed for shorter read range. They are flexible, but more expensive as they have built in antennas.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 13
As an Certkiller engineer you have been asked to design and implement the personal access control system for a high security research lab. You planned to implement high frequency (HF)-based passive RFID interrogators. What is the maximum read range for the interrogators in this scenario to be used?

A. 1 meter
B. 3 meter
C. 50 centimeter
D. 11 meter

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
High-frequency tags work well on objects made of metal and can work around goods with high water content. They have a maximum read range of about three feet (1 meter).
Reference: www.rfidjournal.com/faq/17

QUESTION 14
How many spectrum channels are available for interrogators operating in dense-reader mode as per the Federal Communication Commission (FCC) Part 15.245 (US)?

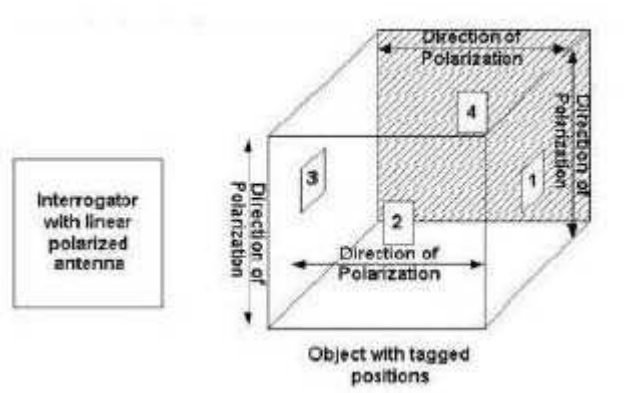
A. 9
B. 1O
C. 20
D. 50

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:
50 spectrum channels are available for interrogators operating in dense-reader mode.
Reference:
https://ipo.llnl.gov/technology/profile/sensor/MicropowerImpulseRadar/FCC_rules.pdf

QUESTION 15
Your company, Certkiller , has given you a project to implement RFID based tracking system in a manufacturing facility. To enable the feature of sensing the presence of tagged items, a light-emitting sensor is installed at the point where the tagged items would be loaded on the conveyor belt. This feature would be used to TURN ON / OFF the interrogator. You had planned to use linear polarized antennas for this system. Select the proper tag alignment that will ensure good

readability. Refer to the exhibit.



A. 1
B. 2
C. 3
D. 4

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Proper tag alignment is crucial for good readability. The interrogator's antenna and the tag's antenna should have the same polarization so option 3 is best choice here.
Reference: http://www.informit.com/articles/article.aspx?p=485644&seqNum=5

QUESTION 16
What measures should we use to extract optimum performance from the RFID tracking solution while designing an RFID tracking solution for a warehouse? (Choose two)

A. Select and place appropriate tags.
B. Select and configure appropriate interrogators.
C. Implement the complete RFID solution in a single phase.
D. Use preconfigured cost-effective RFID hardware.

Correct Answer: AB
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option A and B are correct choice. Selection and placement of the right tags and proper configuration of interrogators is needed to achieve optimum performance.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 17
Which interrogator frequency should you NOT use to implement the RFID system in a facility which is using anti-collision algorithm?

A. 135 KHz

B. 433 MHz
C. 13.56MHz
D. 2.45 GHz

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option A is correct choice. Not all frequency bands can be using when using anti-collision algorithm. 135 KHz is not to be used with anti-collision algorithm.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 18
Which air-interface standard allows the use of separate transmits and receives channels in a multiple interrogator environment?

A. ISO
B. Gen 1
C. Gen2
D. Class II

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option C is correct choice. Gen 2 provides standards-based framework for enhanced features and significant process improvements, including robust operation in high-density reader environments, compliance with global spectrum regulations, superior tag throughput and improved accuracy
Reference: www.rfidjournal.com/article/view/1878/1/82

QUESTION 19
An RFID system is implemented using passive tags and interrogators. Which protocol enables tags to transmit signals in a serial order to an interrogator to prevent interrogator conflicts?

A. The SLRRP protocol
B. The adaptive binary tree protocol
C. The controller-to-reader protocol
D. The digital cipher protocol

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation
In order to prevent interrogator conflicts and transmit signals in a serial order, the adaptive binary tree protocol is used by the tags. But to support the binary tree protocol, tags should use a counter and are able to generate a random number. In this way, the colliding tags split according to the number they select randomly. Tags that select 0 transmit their IDs to the interrogator. If multiple tags select 0, the interrogator keeps

going down the tree until only one tag responds. When one tag responds, the interrogator establishes communication with that tag to get the required information.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

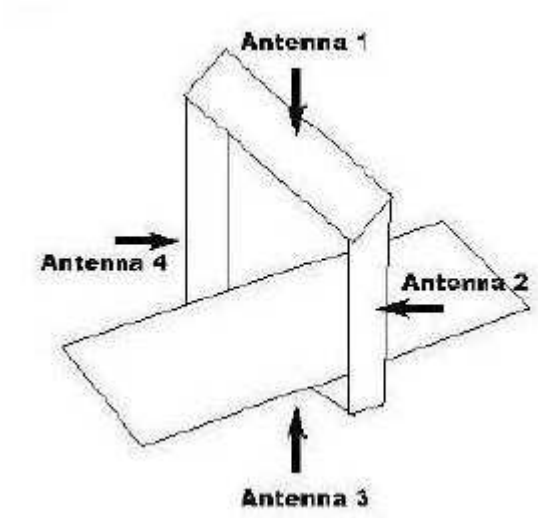
QUESTION 20
As an Certkiller engineer you are asked to implement RFID-based tracking system in a manufacturing unit for all the dock doors. Which two options should you implement to minimize interference between overlapping interrogation zones? (Choose two.)

A. Optimize the power levels of the interrogators.
B. Use interrogators in dense-reader mode.
C. Use an anti-collision protocol.
D. Implement shielding between the dock doors.

Correct Answer: AD
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option A and D are correct choice. With multiple interrogators that have overlapping interrogation zones, shielding prevents interference between interrogators
Reference:
www.informit.com/content/images/9780789735041/samplechapter/0789735040_CH03.pdf

QUESTION 21
You are hired by Certkiller Corporation to implement an RFID system on conveyors in its warehouse. You plan to install four antennas in the arrangement depicted in the exhibit.



In order to achieve consistent reads what two steps should you perform? (Choose two.)

A. Optimize the speed of the conveyor belt.
B. Remove Antenna 3 from below the conveyor.
C. Add additional antennas.
D. Set the antennas far away from the far-field communication

Correct Answer: AD
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option A and D are the correct choice. To achieve consistent reads, the speed of the conveyor belt needs to be optimized and antennas need to be set away from far-field communications. As RFID antennas emit electromagnetic radiation (radio waves) this must be done to avoid signal interference.
Reference: www.rfidjournal.com/article/glossary/2

QUESTION 22
Your company, Certkiller , has given you a project to implement an RFID based tracking system for a facility. The facility is comprised of multiple dock doors that are adjacent to each other. What type of interrogators do you need to use so that the dock based RFID solution supports multiple interrogators?

A. Hand-held
B. Fixed position
C. Mobile mount
D. Read-write

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option B is correct choice. Fixed position interrogators support multiple interrogators.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 23
Your company, Certkiller , has given you a project to implement an RFID based tracking system for a manufacturing unit with a high production rate. What protocol will be used to implement an asynchronous scheme in which tags in the interrogator's zone respond at randomly generated times to prevent collision?

A. Slotted Aloha
B. Adaptive Binary Tree
C. Slotted Terminal Adaptive Collection
D. EPC UHF Class 1 Gen 2

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option A is correct choice. In slotted aloha synchronous system: time is divided into slots, and slot size equals fixed packet transmission time. When packet is ready for transmission, it waits until start of next slot and packets overlap completely or not at all.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 24
How do you ensure that the RFID system is not too sensitive to tag orientation while implementing an RFID tracking system in a warehouse?

A. Install linearly polarized antennas.
B. Install circularly polarized antennas.
C. Trigger the tag reading at a different point.
D. Use a close coupling smart card.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option B is correct choice. Linear polarized antennas are sensitive to tag orientation so go for circularly polarized antennas.
Reference:www.freepatentsonline.com/70194929.html

QUESTION 25
Your company, Certkiller , has given you a project to implement an RFID based tracking system for a warehouse. The warehouse stores individually tag pallets and cartons. The warehouse has 20 dock doors and 10 forklifts. You plan to implement an RFID system in the warehouse. You need to do a comparative analysis of forklift-mounted interrogators and doc door-mounted interrogators. What are the two advantages of forklift-mounted interrogators? (Choose two.)

A. Lower cost
B. Higher cost
C. Higher read rate
D. Lower read rate

Correct Answer: AC
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option A and C are correct choices. Forklift-mounted interrogators are more cost effective, and portable.
Reference:
www.itrportal.com/absolutenm/articlefiles/3733-RFIDBasicsforRetailers_wp_web.pdf

QUESTION 26
Your company, Certkiller , has given you a project to implement an RFID based tracking system for a manufacturing facility. As per the design you will be using multiple readers in close proximity, so you configure the interrogators to operate in dense reader mode. Which statement is correct for this configuration?

A. Interrogators will not be able to read tags because of interference.
B. To minimize interference, the interrogators should be placed at optimum physical distance.
C. The interrogators will hop between channels within a certain frequency range.
D. The interrogators will logically select frequency channels.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option C is the correct choice. Without dense reader mode capabilities, multiple readers and tags operating in proximity will experience interference that can render the system unusable.
Reference: www.burnellreports.com/PDFs/IntermecGen2.pdf

QUESTION 27
An RFID system uses interrogators with two separate antennas, one is to transmit radio frequency (RF) energy to a tag and other is to receive RF energy from a tag. Which types of interrogators are being used by the RFID system?

A. Monostatic
B. Interactive
C. Bistatic
D. Autonomous

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option C is correct choice. Bi-static antennas include two antennas, where one antenna is dedicated to transmitting, and the other antenna is dedicated to receiving. Both dedicated antennas can be, but do not have to be, in the same casing. In a bi-static antenna, a circulator is not required, which improves the performance and sensitivity of antenna.
Reference: www.informit.com/articles/article.aspx?p=485644&seqNum=5

QUESTION 28
Spectral separation of interrogators is supported in which mode of the Federal Communication (FCC) rules?

A. Single reader mode
B. Multi-reader mode
C. Dense reader mode
D. UHF mode

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation
Spectral separation of interrogators is supported in dense reader mode according to the Federal Communications Commission (FCC). FCC is an independent U.S Government agency which is established under the Communications Act of 1934. It regulates the use of radio spectrum by non-federal government entities. When the interrogators are used in dense reader mode, the probability of listening to the communication by other tags is higher. To check the communications between tags and to avoid any criminal activities, the FCC has regulated the spectral separation of interrogators to support dense reader mode.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 29
Your company, Certkiller , has given you a project to implement RFID system on conveyors for a manufacturing unit. In order to achieve consistent reads, you

implement a pilot RFID system and do speed optimization for the conveyor. What is NOT an important consideration while implementing an RFID system on conveyors?

A. The position and orientation of interrogators and antennas
B. The orientation of packages moving on the conveyor
C. The distance of antennas from the conveyor
D. The frequency system to be used

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation
While implementing an RFID system on conveyors, you should take extra care to position the interrogators and antennas because it affects the reading capability of an RFID system. You should also take care of the distance of antennas from the conveyor because a pilot RFID system might not be able to read from a distance. So the distance should be considered. The orientation of packages moving on the conveyor are certainly not important because the RFID system will read the tag on the packages no matter how concealed it is because the tags are not oriented in a certain direction. You can place the packages on the conveyor in any position you like.
Conveyors are used for case-level tracking. For example at airports and other high security zones.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 30
You are an RFID engineer. You are assigned to install and configure an RFID system in the warehouse. You are also given the charge to install and configure the conveyer. You place active tags on the packages. After the installation and configuration, you find out that the forklifts are getting interference. What should you do to ensure that the tags work properly and does not cause any interference in the forklift operations?

A. Place the tags on top of the packages.
B. Use interrogators with high power antennas.
C. Use semi-passive tags.
D. Use RF-opaque packing material

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation
The semi-passive and passive tags use UHF (ultra high frequency) to communicate. When you use semi-passive tag which has a battery but cannot initiate a communication, the interference will be reduced. The active tags can initiate communication and thus cause interference with other systems. The passive tags doest have a battery and they cannot initiate a communication. Passive tags doesn't have memory or other components because it is compact whereas semi-passive tags are larger than passive tags and have room for battery and memory.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 31
You had installed an RFID system for a facility. On testing the system you realized that you are facing problem of low tag read. What can be the probable cause of the

low tag read?

A. The tagged item is RF-reflective.
B. The tagged items are RF-absorbent.
C. The tagged item is RF-transparent.
D. The tagged item is causing a multiple propagation effect.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option B is correct choice. Low tag read rate could also be caused by collisions, but sometimes it could be due to RF absorbent material. Like tags near salt water suffer high losses, while tags attached to paper towels suffer very little loss of signal.
Reference: www.it.iitb.ac.in/research/techreport/reports/18.pdf

QUESTION 32
You had installed an RFID system for a facility. On testing the system you realized that you are facing problem of low tag read. What would be your first step to troubleshoot this problem?

A. Replace the interrogator.
B. Upgrade the interrogator firmware.
C. Change the tag placement on the item.
D. Check the configuration of the interrogator.

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation
To rectify the low tag read problem, you have to check the configuration of the interrogator. The low tag read occurs when the tag speed is decreased. So you have to adjust the tag speed to rectify the low tag read. If you increase the tag read too much, the interrogator will miss reading some tags and this will affect the performance. So adjust the speed accordingly.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 33
You installed network interrogators for an RFID system in a facility. You are experiencing a problem where some network interrogators were unable to read tags. What could be the cause of this?

A. Some interrogators are configured to read only a specific type of tag.
B. The interrogators require a reboot.
C. The cables between the interrogators and the antennas are to long.
D. The interrogator antennas are not configured properly.

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

Explanation:
Option A is the correct choice. Tags can be classified into 5 categories - Class 0, Class 1, Class 2, Class 3, Class 4 and Class 5. We can configure interrogators to read only specific class tags.
Reference: www.it.iitb.ac.in/research/techreport/reports/18.pdf

QUESTION 34
You are an RFID engineer who is assigned the task of implementing RFID hardware components for the RFID system. What considerations should you keep in mind during the implementation?

A. Interrogator firmware should be upgradeable.
B. Tags should be upgradeable.
C. Both the tags and the interrogators should be upgradeable.
D. Middleware should be upgradeable.

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option A is the correct choice. Hardware component selection affects the performance of an RFID system. RFID system components like readers, tags, antennas, interrogators, etc need to be selected carefully keeping in mind future expansion and upgradability requirements apart from performance. An interrogator with upgradeable firmware is an intelligent choice in order to ensure handling of non-compatibility issues.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 35
You installed an RFID system for a facility. One of the requirements of unit is to achieve higher data read rates. How can this be achieved?

A. Restart the interrogators after implementation.
B. Position tags within the ellipsoid region of the antenna footprints.
C. Use circularly polarized antennas at the edge of the antenna footprints.
D. Use high-powered antennas.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option B is the correct choice. The footprints of the reader's antennas determine the read zone (also called the read window) of a reader. In general, an antenna footprint, also called an antenna pattern, is a three-dimensional region shaped somewhat like an ellipsoid or a balloon projecting out of the front of the antenna. In this region, the antenna's energy is most effective; therefore, a reader can read a tag placed inside this region with the least difficulty
Reference: www.informit.com/articles/article.aspx?p=413662&seqNum=2

QUESTION 36
You installed an RFID system for a facility. One of the requirements of the unit is to achieve higher data read rates. In testing you realized that you are not able to achieve the desired data read rate for tags. What should you do first to troubleshoot this problem?

A. Replace the interrogators with new interrogators.
B. Replace the unread tags with new tags.
C. Check the configuration of the interrogators, and reconfigure them if required.
D. Replace the interrogator antennas with other interrogators.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation
To achieve the desired data read rate for tags, you should replace the unread tags with new tags. The interrogator misses some tags and you replace those missed tags with new tags. This way the interrogator will read those tags.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 37
You installed an RFID system for a facility. In testing the system you realized that you are not able to achieve the desired data read rate for tags and you need to analyze probable causes of this. What should you do? (Choose two.)

A. Check whether the tag type matches that of the encoder.
B. Check whether passive tags are used or not.
C. Check for tag orientation within smart labels.
D. Check whether FCC-certified tags are used or not.

Correct Answer: AC
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option A and C are the correct choices. The RFID encoder verifies that an RFID tag or label has been properly encoded and has the same content as the corresponding barcode label. The RFID can further verify that the barcode has been properly printed. If both barcode and RFID tag contain the correct data, both types of labels are attached to a package, enabling the package to be read optically and with radio frequency signals. Secondly, the orientation of tag in relationship to the reader/antenna will affect the performance of the tag.
Reference: www.rfidproductnews.com/issues/2005.01/feature/success.php

QUESTION 38
You installed an RFID system with multiple readers for a facility. On testing the system you realized you are facing the problem of low tag read. What could be the cause of low tag read rate?

A. Packing material for the tagged items
B. High power of antennas
C. Reader collision
D. Low power of antennas

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option C is correct choice. In a multi-reader environment, RFID system performance will be limited by the reader collision problem. RFID readers use different channels to minimize collision. However, with limited channels, the in-channel collision will happen
Reference: www.autoidlabs.org/single-view/dir/article/6/62/page.html

QUESTION 39
You installed an RFID system for a facility. You are experiencing the problem of low tag read on an RFID system. What should you do to rectify the problem?

A. Add the ID numbers to the existing EAS tags.
B. Replace the EAS tags with higher data capacity tags.
C. Upgrade the tag firmware to add ID numbers.
D. Add the ID numbers in the EAS tags, and upgrade the interrogator firmware.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option B is the correct choice. EAS tags are passive and don't contain any integrated circuit, but at the same time they are single-bit.
Reference: www.atmel.com/dyn/resources/prod_documents/secrerf_3_04.pdf

QUESTION 40
After installation of an RFID system in a facility, you are trying to diagnose problems with tagged items for a conveyor-based RFID system? What should not be considered as part of troubleshooting process?

A. Type of tags used
B. Type of packing material used
C. Speed of the conveyor belt
D. Length of the conveyor belt

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option D is the correct choice. The length of conveyor belt has no impact on reading tagged items.
Reference: www.behrend.psu.edu/outreach/rfid/Documents/RFIDresearchPSU.pdf

QUESTION 41
After installation of an RFID system in a facility, on testing the system you realized that problems occur with tagged items for a conveyor-based RFID system. What should you do to diagnose this problem?

A. Use anti-collision methods for interrogators.
B. Separate the transmitting antenna and the receiving antenna.
C. Use a circularly polarized antenna.
D. Replace existing tags with a new set of tags.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option B is the correct choice. A bistatic RFID interrogator, or reader, uses one antenna to transmit RF energy to the RFID tag and a different antenna to receive energy reflected back from the tag and this handles collision problem to some extent.
Reference: www.aimglobal.org/technologies/rfid/rfid_Glossary.asp

QUESTION 42
EAS tags are used to store what type of data?

A. The tagged item's ID
B. The tagged item's detailed attributes
C. Single-bit data
D. Item care instructions

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation
EAS tags can store only a single-bit data and they are generally used for token collection or other smaller tasks. It doesn't have much memory.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 43
You installed an RFID system for a facility. You are experiencing a problem of low tag read on an RFID system. What is the probable cause for the low tag read rate?

A. Material of the tagged items
B. Physical coupling of tags and antennas
C. ESD damage
D. Tag collisions

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option D is the correct choice. An EAS system is an electronic tagging scheme used to deter shoplifting in retail stores. EAS systems are single bit RFID systems able to convey their presence, but not having sufficient data capabilities to convey an identity.
Reference: http://transpondernews.com/easbasic.html

QUESTION 44
You installed an RFID system for a facility. You are experiencing a problem of low tag read on an RFID system. What is the probable cause for this problem?

A. ESD
B. Low power of the reader antennas
C. Packing material

D. Tag placement

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
If there is a low tag read on a RFID system, the probable cause is ESD. Electrostatic discharge is an instantaneous electric current created by the flow of electrons. ESD could degrade an electronic component. In the RFID system environment, ESD can occur when the belts, conveyers, rollers etc. rub against the tag's IC. It causes the tag or even interrogator's IC to malfunction resulting in low tag read.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 45
You need to tag the pallets in an RFID system, what should you do?

A. Leave gaps between cases while stacking them in a pallet.
B. Position the tags on the outer causes of a pallet.
C. Attach tags with a foam backing.
D. Ensure that tags are aligned vertically.

Correct Answer: AB
Section: (none)
Explanation

Explanation/Reference:
Explanation:
When stacked closely together, tags may interfere with one another. There is a wide variation in tag performance in high-density environments. The best tags work effectively even when situated within one-half inch of each other and positioning the tags on the outer causes of a pallet improves the readability of tags.
Reference: www.ruggedpcreview.com/3_definitions_rfid.html

QUESTION 46
You have recently been hired as a RFID engineer at a local organization. You are asked to implement an RFID system with active tags to tag the shipping packages. After implementing the system, you find out that the active tag has a low read rate and the interrogator is unable to read most of the tags. Which two measures could have avoided this problem? (Choose two.)

A. Implement a more expensive RFID solution.
B. Perform tests before implementing the solution.
C. Choose appropriate hardware to suit the company requirements.
D. Add more antennas to the interrogators and increase the antenna power.

Correct Answer: BC
Section: (none)
Explanation

Explanation/Reference:
Explanation
You should always perform tests before implementing a solution. By testing a solution, you can discover the problems it might pose in a live environment. You can easily solve the problem in test mode because the system is not implemented yet and it will clearly show the professionalism. If you would have tested the RFID system before implementing it, you would have found the problem and get time to fix it. You also need

to choose appropriate hardware according to the company requirements. Good RFID systems and active tags are expensive but it gives peace of mind. So you should always choose appropriate hardware according to the company's requirements.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 47
You are experiencing the problem of dead tags in a newly installed RFID system in a facility. What could be the reason for the dead tags?

A. ESD damage
B. Shielding effect of tagged items
C. Detuned tags
D. Energy absorption from high power antennas

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option A is correct choice. Electrostatic Discharge (ESD) can cause damage to the fragile electronic chips embedded into RFID labels.
Reference: www.rfidproductnews.com/issues/2006.09/label.printing.php

QUESTION 48
You plan to implement an RFID-based tracking system in your company. While choosing between types of interrogators for the system, what should you do to maximize your investment?

A. Ensure that the interrogator firmware is upgradeable.
B. Ensure that the hardware used is FCC compliant.
C. Use bistatic antennas.
D. Use active tags.

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation
The best way to maximize your investment is to buy an interrogator whose firmware can be upgradeable. Firmware is coded instructions stored in ROM (Read-only memory). When upgrading an interrogator to read a new protocol, the firmware should be upgraded. So you don't have to buy any new reader/interrogator to achieve something in the future. An upgradeable firmware can do the trick.
Reference: http://www.rfidjournal.com/magazine/article/2764

QUESTION 49
Which of the following elements affect the performance of the RFID system? (Choose two.)

A. Vendor specifications
B. Power transmitted to tags from interrogators
C. Information storage capacity of tags
D. Power received form tags by interrogators

Correct Answer: BD
Section: (none)
Explanation

Explanation/Reference:
Explanation
When you use passive or semi passive tags, the performance of RFID system is affected because passive tags have no power of their own. They tend to work only through the signals sent by an interrogator. When you install passive or even semi passive tags, the performance is affected because the tags cannot initiate a communication on their own and since there is no battery in passive tags, you cannot get information from the tags. You only get information we you send a signal from an interrogator.
Similarly, the passive tags and semi passive tags don't have storage capacity of their own. So the performance is affected when you are unable to store any vital information in those tags.

QUESTION 50
How do you ensure that encoded and corrupt labels are not distributed in an RFID system?

A. Perform write verification.
B. Use the Gen 1 protocol.
C. Uses the tags with UII memory.
D. Use a printer or an encoder using SDR system

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option A is correct choice. Write verification ensures that corrupts labels are not distributed on RFID system.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 51
How do you prevent damage from ESD?

A. Use a passive static eliminator.
B. Use an active static eliminator.
C. Use both active and passive static eliminator.
D. Replace the dead tags with a new set of tags.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option B is correct choice. The use of an extended range active static eliminator keeps the sensitive RFID circuit a safe distance from the high intensity electric field that is present in close proximity to the ionizer emitter electrodes (pins). Also, the additional distance from the target will provide a better mix of ions, and consequently a better ion balance, so there are no residual voltages to be concerned with.
Reference: www.labelandnarrowweb.com/articles/2005/03/rfid-in-2005.php

QUESTION 52
What could be the reason for NOT using EAS tags?

A. An EAS tag can store only one-bit data.
B. An EAS tag can store ID numbers that are less then 32 bits.
C. An EAS tag can store data up to 256 bits.
D. An EAS tag is not supported by RFID systems.

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
EAS tag is of single bit storage capacity
Reference:
www.rfidsolutionsonline.com/downloads/detail.aspx?docid=7905e30b-cc96-43b1-bd19-10162f3e4476

QUESTION 53
Which test should you perform?

A. Antenna pattern test
B. Reader performance test
C. Stock Keeping Unit (SKU) test
D. Tag characterization test

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 54
You are an Certkiller RFID engineer and you have been assigned the task of implementing an RFID-based tracking system in a manufacturing company. What is the most important consideration in determining the type of tag to be used during implementation?

A. Cost of the tags
B. Setup environment
C. Packing material
D. Type of antenna in the tags

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Choice of packing material impacts the label's readability. For example, the use of case shipments with air gaps enhances RF readability. Use of cardboard or paper packing is very RF friendly for dry, paper, textiles etc.
Reference: www.ti.com/rfid/docs/manuals/whtPapers/wp-SKU_Performance.pdf

QUESTION 55

What type of packing material should be used to enhance the RF readability?

A. Place the tags on the top of tins.
B. Pack larger metal tins and drums in cartons.
C. Attach tags to tins by using thin foam backing.
D. Increase the power of antennas.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation
There is no universal rule about the type of packing material to be used to enhance RF readability. But there are some things that can enhance RF signals and give optimum performance. You should attach tags to tins by using think foam backing. Tags attached to the tin will receive RF signals and the quality will be high. If you use some other type of metal, it will absorb RF and the quality will be poor. So using a tin and attaching it to tag with thin foam backing will do the trick.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 56
In order to achieve optimum read rate which side should you place the tags?

A. On the front face of the carton
B. At the bottom of the carton
C. On both the left and right sides of cartons
D. On the top of cartons.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation
The logical answer is on both the left and right sides of the cartons. The tags placed at the bottom will not be aligned with the reader antenna and there is a possibility of damage to the tag. The tag should not be placed on top of the carton because if carton are stacked on top of each other, there is no way, the reader can communicate the tag because there will be little or no signals. Similarly, if you place a tag on the front face of the carton, the shadowing will occur which will make it impossible to read the carton behind another one. The only places where a tag placed can be aligned with reader are left and right sides of the carton.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 57
You are an Certkiller RFID engineer; recently you installed an RFID system. Now you need to implement an RFID printer in the network. Which two conditions should be met while implementing an RFID printer? (Choose two.)

A. Printer with validation/recovery routines should be implemented.
B. Printer should be compatible with the interrogators
C. Tag types should match the encoder.
D. Printer with bistatic antennas should be used.

Correct Answer: AC

Section: (none)
Explanation

Explanation/Reference:
Explanation
While implementing an RFID printer, you should make sure that the printer is implemented with validation/recovery routines and that the tag types match the encoder. These are most important things. The validation and recovery routines ensure that the communication between RFID encoder and printer software is established. Moreover, you should also make sure that the tags that are been printed match the RFID encoder.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 58
You are an RFID engineer at Certkiller .com. After setting up an RFID system and placing tags on the cartons full of books, you set a filtering read point on interrogators to read only some specific tags. The interrogator misses some of the tags that you want to it to read and get data from the tags that are not important. What is a probable cause of this problem?

A. Tag antennas are damaged and must be replaced.
B. Some tags are dead.
C. The interrogators require a reboot.
D. Some tags do not meet the filtering criteria.

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation
The filtering criteria you set on the interrogators is not correct because the missed tags do not meet the filtering criteria. You should set the interrogator filtering system to read specific tags that you want it to read. Be as specific as possible so the interrogator can identify those tags and read it. You have to define read points and set the interrogator to read only the specific tags and ignore others. This way you will be able to desired results.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 59
Certkiller has plans to implement an RFID solution in the USA and Europe. Before implementing the system they need to consider the legal limitation on the frequency of RFID solutions in these countries. Which approach will NOT enable the company to successfully implement the RFID solution in these countries?

A. Select a vendor that can provide RFID hardware operating in the permitted frequency range in each country.
B. Change the class of tags used in the RFID solution.

C. Change the frequency of the RFID solution to the closest equivalent permissible

frequency in a particular country.

D. Apply for a special license from the government of each country.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation
Obviously if you change the class of tags used in the RFID solution, you will not be able to implement RFID solution in USA and Europe. There are so such restriction standards related to the class of tags. You use tags class to implement an RFID solution that can produce desired results. To implement RFID solution in these countries, the most important thing to do is to change the frequency of the RFID solution to bring it in to the permissible frequency range of the particular country.
Reference: RFID Sourcebook

QUESTION 60
Which two statements are true of the ISO/IEC 18000-7 standard? (Choose two.)

A. It defines the physical and logical requirements for a passive tag.
B. It is used for devices operating in the 860-960 MHz frequency band.
C. It provides specification for RFID devices operating in the 433 MHz band.
D. It defines the forward and return link parameters for technical attributes, such as frequency.

Correct Answer: CD
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option C and D are correct choices. This standard is intended to address RFID devices operating in the 433 MHz frequency band.
Reference:www.hightechaid.com/standards/18000.htm

QUESTION 61
Which memory bank contains the 8-bit ISO/IEC 15963-allocation class identifier for an EPC Class 1 Gen 2 tag?

A. TID memory
B. User memory
C. EPC memory
D. Reserved memory

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation
TID memory bank contains the 8-bit ISO/IEC 15963-allocation class identifier. The Tag identifier is a manufacturer assigned unique identity of the product that identifies the product itself.
Reference: RFID Sourcebook

QUESTION 62

At Certkiller , you planned to implement contact-less vicinity-based smart card RFID system for employee access control in an organization. Which standard should you refer for technical specifications regarding implementing an RFID system?

A. ISO 10536
B. ISO 14443
C. ISO 15693
D. ISO 18000

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option C is correct choice. ISO 18000 standard RFID air interface for item management using devices operating in the 860 MHz to 960 MHz ISM band. This Standard is to describe the Reference Architecture for Radio Frequency Identification for Item Management and to establish the Parameters that shall be determined in any Standardized Air Interface Definition in the ISO 18000 series
Reference: www.hightechaid.com/standards/18000.htm

QUESTION 63
Providing information regarding human exposure regulation and electromagnetic compatibility regulations for an RFID solution is addressed by which EPCglobal specification?

A. Class 1 Gen 2 UHF RFID Conformance Requirements Specification v. 1. 0.2
B. 13.56 MHz ISM Band Class 1 RFID Tag Interface Specification
C. 900 MHz Class 0 RFID Tag Specifications
D. EPCglobal Architecture Framework Version 1.0

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation
The EPC global specification related to human exposure regulation is a specification that defines the limit of the frequency that is not harmful to human beings. The 13.56 MHz ISM Band Class 1 RFID Tag Interface Specification details the total MHz and Band Class of the RFID Tag interface. This is the limit of the RFID frequency which will not affect human beings in anyway. Any frequency operated above this can result in catastrophe because human body is susceptible to absorb frequencies.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 64
At Certkiller you are implementing an RFID-based employee access system for a building. Which ISO/IEC standard should serve as a reference for commands and specifications used in this implementation?

A. ISO/IEC 18000-1
B. ISO/IEC 18000-2
C. ISO/IEC 18000-3
D. ISO/IEC 18000-6

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
ISO/IEC 18000-3 defines 13.56MHz ISM Band Class 1 RFID Tag Interface specification (Class 1)
Reference: www.postech.ac.kr/ee/mmic/RFfrontend/RFID.html

QUESTION 65
You are an Certkiller RFID engineer, hired to implement an RFID-based tracking system in an airport. The RFID system will use UHF antennas. What should be your primary considerations regarding the safety of human beings? (Choose two.)

A. Long-term human exposures to RF waves should be avoided
B. Interrogators pose safety risks and should be handled with care.
C. UHF antennas must be installed at an appropriate distance to avoid human exposure.
D. Proper authorization should be obtained for compliance with FCC regulations regarding the limits of human exposure to RF waves.

Correct Answer: CD
Section: (none)
Explanation

Explanation/Reference:
Explanation:
The antenna must be placed at least 5 meters away avoid human exposure. Authorization approval is required for compliance with FCC regulations.
Reference: http://csrc.nist.gov/publications/nistpubs/800-98/SP800-98_RFID-2007.pdf

QUESTION 66
Which two statements are TRUE of the ISO 15693 standard? (Choose two.)

A. The ISO 15693 standard defines two tag types.
B. The ISO 15693 standard define the Slot Marker Method.
C. The ISO 15693 standard does not define any anti-collision method.
D. The ISO 15693 standard can be used for access control and supply chain tracking.

Correct Answer: BD
Section: (none)
Explanation

Explanation/Reference:
Explanation
The ISO 15693 standard defines the Slot Market Method and it can be used as a standard access control and supply chain tracking procedure. International Organization for Standardization (ISO) is an international standards body composed of representatives from national standards bodies. It sets worldwide industrial and commercial standards which are popularly known as ISO standards.
There are many standards related to RFID and radio frequencies. ISO standardizes these to implement a perfect way to achieve the tasks RFID is designed for.
Reference: RFID Sourcebook

QUESTION 67
The structure and elements of machine-readable markup files provides information regarding using these files either in automatic translations or validation of software

is addressed by which standard?

A. ISO/IEC 18000-6
B. ISO/IEC 18000-7
C. EPCglobal Tag Data Translation (TDT) 1.0
D. Class 1 Generation 2 UHF Air Interface Protocol Standard Version 1.0.9

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Data Translationstandardsare concerned with a machine-readable version of the EPC Tag Data Standards specification. The machine-readable version can be readily used for validating EPC formats as well as translating between the different levels of representation in a consistent way. This specification describes how to interpret the machine-readable version. It contains details of the structure and elements of the machine-readable markup files and provides guidance on how it might be used in automatic translation or validation software, whether standalone or embedded in other systems.
Reference: www.epcglobalinc.org/standards/tdt/

QUESTION 68
Which ISO/IEC 18000 standard defines specifications for EPCG1oba1 Class 1 Generation 2 tags?

A. ISO/IEC 18000-1
B. ISO/IEC 18000-2
C. ISO/IEC 18000-3, Mode 1
D. ISO/IEC 18000-6, Type C

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation
The ISO/IEC 18000 standard defines specifications for EPCG1oba1 Class 1 Generation 2 tags is ISO/IEC 18000-6, Type C. The ISO/IEC 18000-i parameters denote the air interface communications for different operating frequencies. i is an integer: 1, 2, 3.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 69
Which statement is TRUE regarding human exposure to radio waves?

A. Long-term exposure to active RFID tags is carcinogenic.
B. RFID equipment should only be handled when you are properly shielded.
C. The ISO rule regarding human exposure to RF waves should be strictly followed.
D. The radio waves should not exceed the permissible limits.

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

Explanation
The human exposure to radio waves is harmful. Therefore, the radio waves should never exceed the permissible limits set by the Standard companies like ISO and EPCGlobal.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 70
Which ISO/IEC 18000 standard has been withdrawn by ISO and is no longer used to implement an RFID system?

A. 18000-3
B. 18000-5
C. 18000-6, Type A
D. 18000-6, Type C

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation
The obsolete ISO standard is ISO/IEC 18000-5. The ISO/IEC 18000-i parameters denote the air interface communications for different operating frequencies. i is an integer: 1, 2, 3.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 71
Certkiller is hired to implement an RFID system for a company that transports military supplies all over the world. They plan to use active tags to track the location of the shipment at different times. Which class of tags should you use in this scenario?

A. Class 0
B. Class I
C. Class II
D. Class III
E. Class IV

Correct Answer: E
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Class 4 tags use a built-in battery to run the microchip's circuitry and to power a transmitter that broadcasts a signal to a reader and is most suitable for tracking shipment at different times.
Reference: www.rfidjournal.com/article/articleprint/1335/-1/1

QUESTION 72
Which ISO/IEC standard defines parameters for air interface communication for HF- based RFID system?

A. ISO/IEC 18000-2
B. ISO/IEC 18000-3
C. ISO/IEC 18000-5
D. ISO/IEC 18000-6

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
ISO/IEC 18000-3 defines parameters for Air Interface Communications at 13.56 MHz
Reference:www.hightechaid.com/standards/18000.htm

QUESTION 73
Which two statements are true of ISO/IEC 18000 standards? (Choose two.)

A. The ISO/IEC 18000 standards describe protocols for smartcards.
B. The ISO/IEC 18000 standards describe protocols and commands for tags.
C. The ISO/IEC 18000 standards describe size specifications for passive tags.
D. The ISO/IEC 18000 standards describe parameters for air interface communications.

Correct Answer: BD
Section: (none)
Explanation

Explanation/Reference:
Explanation
Created by ISO/IEC/JTC 1/SC31/WG4/SG3, ISO/IEC 18000 is a series of standards. These standards are created for RFID air interface for item identification. So this series of standard describes protocols and commands for tags and parameters for air interface communications.
Reference: http://www.hightechaid.com/standards/18000.htm

QUESTION 74
Human exposure to RF waves is addressed by which standard?

A. FCC guidelines
B. EPC standards
C. ISO/IEC 18000-1
D. EPCG1oba1 Class 0

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation
FCC guidelines cover the issues related to RF energy. RF energy has the ability to heat up the body tissues. This is generally called Thermal effect. RF energy can heat human body which is harmful. So FCC has issued guidelines on Radio Frequency waves.
Reference: http://www.fcc.gov/oet/rfsafety/rf-faqs.html

QUESTION 75
Which two statements are true of the ISO/IEC 18000-3 standard? (Choose two.)

A. The ISO/IEC 18000-3 standard defines tag communication as half-duplex (HDX).
B. The ISO/IEC 18000-3 standard defines specifications for semi-passive tags with tags talking first.
C. The two modes that are defined in the ISO/IEC 18000-3 standard cannot be used without a license.

D. The ISO/IEC 18000-3 standard include specifications for air interface communications at 13.56 MHz.

Correct Answer: CD
Section: (none)
Explanation

Explanation/Reference:
Explanation
The ISO/IEC 18000-3 standard provides physical layer, collision management system and protocol valuses for RFID systems for item identification operating at 13.56 MHz. This standard is in related with the requirements of ISO 18000-1. So, the two modes defined in this standard cannot be used without license and it includes specifications for air interface communication at 13.56 MHz
Reference: http://www.hightechaid.com/standards/18000.htm

QUESTION 76
Which standard addresses air interface communication for RFID devices operating at the 2.45 GHz Industrial, Scientific, and Medical (ISM) band that is used in item management applications?

A. ISO/IEC 18000-2
B. ISO/IEC 18000-4
C. ISO/IEC 18000-6
D. ISO/IEC 18000-7

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
ISO/IEC 18000-4 defines parameters for Air Interface Communications at 2.45 GHz.
Reference: www.elastic-rfid.com/index.php?cmsid=5

QUESTION 77
The generic parameters for the air interface protocol for globally accepted frequencies are defined by which standard?

A. RTLS
B. ISO/IEC 18000-1
C. EPCGen2
D. ISO standards for smart tag

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
ISO/IEC 18000-1 defines Generic Parameter for Air Interface Communications for Globally Accepted Frequencies.
Reference: www.elastic-rfid.com/index.php?cmsid=5

QUESTION 78
Which ISO/IEC 18000 standard defines air interface communication for tags operating below 135 KHz?

A. ISO/IEC 18000-1
B. ISO/IEC 18000-2
C. ISO/IEC 18000-5
D. ISO/IEC 18000-6

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
ISO/IEC 18000-2 defines parameters for Air Interface Communications below 135 kHz.
Reference: www.elastic-rfid.com/index.php?cmsid=5

QUESTION 79
Certkiller is contracted by a government agency to implement smart systems to restrict entry to the office complex. RFID engineers are planning to use RFID tags that will communicate with the interrogators in the ultra-high frequency range operating between 860 MHz and 960 MHz. Which ISO RFID air interface standard is applicable in this situation?

A. ISO/IEC 18000-2
B. ISO/IEC 18000-7
C. ISO/IEC 18000-6
D. ISO/IEC 18000-4

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
ISO/IEC 18000-6 defines parameters for Air Interface Communications at 860 to 930MHz.
Reference:www.elastic-rfid.com/index.php?cmsid=5

QUESTION 80
Which memory bank contains the kill password and the access password for an EPC Class 1 Gen 2 RFID system?

A. TID memory bank
B. User memory bank
C. EPC memory bank
D. Reserved memory bank

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation
Reserved memory bank contains the kill password and the access password for an EPC Class 1 Gen2 RFID system. It has a 32-bit kill code and 32-bit password.
Reference:
http://www.rfidbuzz.com/news/2005/epc_class_1_generation_2_rfid_tag_specification_available_online.html

QUESTION 81
Which two statements regarding RFID exposure to humans are true? (Choose two.)

A. The exposure should be within the MPE limits.
B. FCC-compliant devices are safe for humans.
C. Humans and livestock should not be exposed to microwaves.
D. Prolonged exposure of human beings to RF waves can cause cancer.

Correct Answer: AB
Section: (none)
Explanation

Explanation/Reference:
Explanation
RFID exposure can effect adversely on human bodies. The exposure should be within the MPE limits and it should be FCC-compliant. FCC issues guidelines for RF exposure. The RFID exposure should be within the limits defined by FCC guidelines. Therefore, all RFID equipment should be FCC-compliant. If the RF exposure is within the limits, it will not harm humans and livestock. Similarly prolonged exposure to RF waves does not cause cancer. The RF energy can heat human tissues which can heat the human body and can affect certain part of human body.
Reference: http://www.fcc.gov/oet/rfsafety/rf-faqs.html

QUESTION 82
Which two statements are true of the ISO/IEC 18000-6 standard? (Choose two.)

A. The ISO/IEC 18000-6 standard has been with drawn.
B. The ISO/IEC 18000-6 standard defines only tag types.
C. The ISO/IEC 18000-6 standard is applicable for only passive backscatter tags.
D. The ISO/IEC 18000-6 standard has been modified to include Type C.
E. The ISO/IEC 18000-6 standard defines air interface communications at 860-960 MHz.

Correct Answer: DE
Section: (none)
Explanation

Explanation/Reference:
Explanation
The ISO/IEC 18000-6 standard provides the rules for the physical interactions between the interrogator and the tag. It also set rules for the protocols and commands and the collision arbitration schemes. It has been modified to include Type C and it basically defines air interface communications at 860-960 MHz.
Reference: http://www.hightechaid.com/standards/18000.htm

QUESTION 83
How many specifications for tag types does the ISO/IEC 18000-2 standard include?

A. One
B. Two
C. Three
D. Four

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation
The ISO/IEC 18000-2 standard includes two types of tags: Type A (FDX) and Type B (HDX). These two types differ by their physical layer and both types support same protocol and anti-collision.
Reference:http://www.hightechaid.com/standards/18000.htm

QUESTION 84
You are an Certkiller company engineer. You are hired by a facility that manufactures bottled water to implement a passive RFID tracking system following the Federal Communications Commission (FCC) regulations. The human resource (HR) department of NuTex is concerned about the detrimental effects of RF waves on the employees. Which information regarding the effects of the RF waves on humans should you share with the HR department?

A. There are no known harmful effects of RF waves on humans in this scenario.
B. Only UHF waves are harmful for humans.
C. Humans can be protected from RF waves by using proper shielding gear.
D. It they are not handled properly, RF waves can lead to harmful effects on humans.

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation
If the RFID tracking system is following the FCC regulations, there should be no known harmful effects of RF waves on humans. All RFID equipment should be FCC-compliant. If the RF exposure is within the limits, it will not harm humans and livestock.
Reference: http://www.fcc.gov/oet/rfsafety/rf-faqs.html

QUESTION 85
Certkiller wants to implement an RFID solution for their United States, Japan, Canada, and South Korea offices. This RFID solution can operate only in the frequency range of 2400 and 2500 GHz. Which country will NOT permit you to implement this RFID solution?

A. Canada
B. Japan
C. South Korea
D. United States

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation
South Korea will not permit frequency range of 2400 and 2500 GHz because the acceptable RFID frequency range in South Korea is much less than 2400 GHz. All other countries including U.S will permit you to operate in the frequency range of 2400 and 2400 GHz.
Reference: doi.wiley.com/10.1002/9780470168226.ch28

QUESTION 86
You are an RFID engineer and you recently deployed an RFID application to track

the movement of items to and from the warehouse. You are responsible for managing the RFID-based tracking system in the warehouse. You are experiencing problem of low tag readability. On investigation you notice that the tag yield for a new consignment of pallets is low because the items were densely packed in the pallets, which caused detuning of the tag antennas. Which affect is responsible for the low tag readability in this scenario?

A. Interrogator collision
B. Tag shadowing
C. Coupling
D. Backscatter coupling

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
This is referred as tag shadowing. Shadowing occurs when multiple tags are placed very close to one another, and the tag antennas "hide" or detune each other, which reduces the chances of reading the "buried" tags by minimizing their chance to be activated.
Reference: www.alientechnology.com/docs/WP_Alien_Tag.pdf

QUESTION 87
Which antenna type operating at UHF is affected by the RFID tag orientation in an RFID item tracking system?

A. yagi antenna
B. barcode antenna
C. Linear polarized antenna
D. Circular polarized antenna

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Linear polarized antenna is better choice in case tag orientation need to be ensure because the coherent wave of the signal and lack of phase distortion increases the likelihood of communicating with the tag so linear polarized antenna at UHF is affected by RFID tag orientation.
Reference: www.informit.com/articles/article.aspx?p=485644&seqNum=5

QUESTION 88
You are an Certkiller company RFID engineer hired by a computer store to implement an anti-theft RFID system. You plan to implement a solution that would track the items, such as laptops and other computer hardware devices, and would have a built-in motion defector in tags. What type of tags would be most suitable for this kind of scenario?

A. Active tags
B. Passive tags
C. Semi-active tags
D. Semi-passive tags

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Active tags are best suited because they have their own internal power source, which is used to power the integrated circuits and broadcast the signal to the reader.
Reference: http://en.wikipedia.org/wiki/RFID

QUESTION 89
Which option is NOT a characteristic of RFID labels or smart labels?

A. Smart labels consist of encoded RFID tags, printed bar codes, and human-readable text.
B. A smart label is made up of several layers.
C. A human can read the contents of a tagged item labeled by using a smart label.
D. RFID tags are embedded in smart labels with adhesive on one side.
E. Smart labels are embedded inside an item.

Correct Answer: E
Section: (none)
Explanation

Explanation/Reference:
Explanation
RFID labels or smart labels are NOT embedded inside an item. RFID tags are embedded in smart labels with adhesive on one side. Smart labels are printed on a paper sheets which have encoded RFID tags, printed bar codes and human-readable labels.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 90
An Certkiller client wants to implement an ultra high frequency (UHF)-based RFID system. The client is a paper product manufacturing company and they want all the paper products will be tagged individually.
Which statement is true regarding the RF property of paper products in UHF?

A. Paper products cannot be tagged.
B. Paper products are RF-lucent in UHF.
C. Paper products are RF-opaque in UHF.
D. Paper products are RF-absorbent in UHF.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Paper products are Rf-Lucent. A material is called RF-lucent or RF-friendly for a certain frequency if it lets radio waves at this frequency pass through it.
Reference: www.informit.com/articles/article.aspx?p=413662

QUESTION 91
A manufacturing unit is using an RFID-based tracking system. The tags used for this system reflect the RF energy back to the interrogators by using ultra high frequency (UHF) and work in half-duplex (HDX) mode.
Which type of tag coupling is used?

A. Inductive coupling
B. Magnetic coupling
C. Backscatter coupling
D. Capacitive coupling

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Backscatter coupling allows large read range and mostly used with UHF passive tags.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 92
As an Certkiller engineer you implemented an RFID system in a facility. According to the RFID solution, you are required to use tags that operate as backscatter tags, at either the 2.45 GHz or the 5.8 GHz frequencies range. These tags should not contain a processor and are encoded only at the time of manufacture. Which tags should you use for this RFID solution?

A. UID
B. EPC Class 1
C. One-bit EAS
D. Surface Acoustic Wave (SAW)

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:
SAW RFID tag or sensor has an antenna for receiving and propagating an RF signal, an input/output IDT electrically connected to the antenna, and a dual track reflective IDT having a first track and a second track located adjacent and acoustically coupled to the input/output IDT.
Reference: www.freepatentsonline.com/7005964.html

QUESTION 93
As an Certkiller engineer you have been hired to deploy an RFID application to track the movement of items in the supply chain management. The product information needs to be stored and disseminated in such a way that all the members in the supply chain can read product information for a fast moving consumer goods (FMCG) selling company. What language would be used to store the product information in this scenario?

A. XML
B. HTML
C. PML
D. EPC

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Physical Markup Language (PML) is used to store the product information as it provides a standard vocabulary to represent and distribute information about Auto-ID enabled objects.
Reference: http://xml.coverpages.org/pml-ons.html

QUESTION 94
Which statement is TRUE of the tag shadowing effect?

A. Tag shadowing occurs only when the packaging material is RF absorbent.
B. Tags cannot draw power from the reader antenna and cannot be read.
C. The adjacent tag antennas must touch physically and detune to enable tag shadowing.
D. Tag shadowing leads to incomplete data reads from the tags.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation
When tag shadowing occurs the tags are unable to draw power from the reader antenna and cannot be read. Tag shadowing occurs when the tag is placed on a carton in such a way that the reader cannot read it.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 95
As an Certkiller engineer you have been assigned responsibility to deploy an RFID-based tracking system in a metal tools manufacturing company. The RFID system will operate at high frequency (HF). Each tool will be tagged individually. What will be the effect of HF on the tagged items?

A. The tagged items will absorb the RF signals.
B. The tagged items will detune the interrogator antennas.
C. The tagged items will allow the RF signals to pass through them.
D. The tagged items will reflect the RF signals.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option C is correct choice. HF based RFID systems are best suited for item level tracking.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 96
As an Certkiller engineer you have been assigned the responsibility to implement an RFID-based tracking solution in a garment manufacturing facility. The interrogator that you plan to use consists of four antenna ports. However, you will install only two antennas to the interrogator. What are the two primary considerations while implementing such a solution? (Choose two.)

A. Properly position the interrogator antennas.
B. Close the unused antenna ports by using terminators.
C. Place the interrogator away from their antennas.

D. Properly position the interrogator.

Correct Answer: AB
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option A and B are correct choices. Position of interrogator antenna and proper termination of unused antenna ports is important.
Reference: RFID sourcebook

QUESTION 97
Which material is RF-opaque for frequencies above 1 GHz?

A. Paper
B. Metals
C. Motor oil
D. Shampoo

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation
Metals can absorb RF energy above 1GHz. RF-opaque is referred to a material that absorbs, reflects and scatters RF waves. The RF-opaque materials allow radio waves to pass through it but with much loss of energy. UHF performs poorly in the presence of metals and liquids because they absorb the energy and scatter it. UHF is the only frequency that ranges from 300MHz to 1 Ghz.
Reference:http://wireless.itworld.com/4985/051004_book_rfidsourcebook/page_1.html

QUESTION 98
A manufacturing company uses an RFID-based forklift system to track items moved from the manufacturing unit to the warehouse. You are a newly appointed RFID specialist in the Certkiller Company. You notice that the packaging materials used in pallets tends to absorb moisture. What will be the possible affect of moisture?

A. Low tag read rate
B. RF waves will be reflected
C. Interrogator inability to read the tags inside the package in dense reader mode
D. Interrogator antenna power increase

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Moisture impacts the low tag read rate because liquid substances absorb radio signals.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 99
Which option should you choose to successfully fulfill the requirements of the manufacturing company and handle the problem of low tag read due to moisture?

A. Put RFID tags at the neck of the bottles.
B. Put smart labels at the neck of the bottle.
C. Put barcode labels at the bottom add RFID tags at the neck of the bottles.
D. Put smart labels at the bottom of the bottles.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Putting smart labels at the neck of the bottle will deter the low tag read problem in this scenario.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 100
Which of the following combination completely describes the features provided by a smart label?

A. RFID tag and barcode
B. RFID tag, barcode, and human readable text
C. Barcode and human readable text
D. RFID tag and human readable text

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation
Smart label provides RFID tag, barcodes and human readable text. Smart label was designed to hold RFID tag, displays barcodes and human readable text for easy identification.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 101
As an Certkiller engineer you have been hired to deploy an RFID application to track the movement of items in the supply chain management. The product information needs to be stored and disseminated in such a way that all the members in the supply chain can read product information for a fast moving consumer goods (FMCG) selling company. What language would be used to store the product information in this scenario?

A. XML
B. HTML
C. PML
D. EPC

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Physical Markup Language (PML) is used to store the product information as it provides

a standard vocabulary to represent and distribute information about Auto-ID enabled objects.
Reference: http://xml.coverpages.org/pml-ons.html

Exam B

QUESTION 1
In Certkiller Company you have purchased an RFID printer that uses synthetic thermal transfer labels.
Which two options are NOT characteristics of synthetic thermal transfer labels? (Choose two.)

A. They are printed with high speed.
B. They are durable and have a long life.
C. They are resistant to heat but can be damaged by chemicals.
D. Their print quality is excellent.

Correct Answer: BD
Section: (none)
Explanation

Explanation/Reference:
Explanation
The thermal transfer printing is a technique used in some RFID printers. Through this technique the printer prints on a medium such a paper by melting a coating of a ribbon that will be glued to the medium. A ribbon is required for this type of printing. The negative aspect of this technique is that it is not durable. Also the print quality is very poor because sometimes the printer head is unable to heat the ribbon and nothing is printed on the medium.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 2
Which ISO standard defines parameters for contact-less smart cards and a single type of inductively - coupled tags?

A. ISO 15693
B. ISO 18000-4
C. ISO 18000-7
D. ISO 18000, Type C

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
ISO 15693 is HF (13.56MHz) standard, widely used for non-contact smart payment and credit cards.
Reference: http://en.wikipedia.org/wiki/ISO_15693

QUESTION 3
Which standard should act as your reference to obtain the parameters for implementing such a system?

A. ISO 10374
B. ISO 15693
C. ISO/IEC 18000-2
D. ISO/IEC 18000-7

Correct Answer: A

Section: (none)
Explanation

Explanation/Reference:
Explanation:
ISO 10374 specifies all necessary user requirements. Includes: a container identification system, data coding systems, description of data, performance criteria and security features
Reference: http://webstore.ansi.org/RecordDetail.aspx?sku=ISO+10374%3A1991

QUESTION 4
What should you do to minimize the effect of soda on the tag readability?

A. You should individually tag each bottle.
B. You should place plastic inserts inside the cartons.
C. You should increase the power of the interrogator antennas.
D. You should use wooden cartons instead of cardboard cartons.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation
Since Soda is a liquid, it certainly affects the performance of a RFID system. To minimize the effect of soda on tag readability, you should place plastic inserts inside the cartons so that the RF waves won't pass through the liquid and loose their energy. Plastic inserts will stop the RF waves traveling through the liquid. This way you will increase tag readability on cartons containing soda bottles.
Reference: RFID Sourcebook

QUESTION 5
Which type of frequency signal should you select for an implementation relating to effect of soda on tag readability?

A. Microwave
B. Low frequency
C. High frequency
D. Ultra high frequency

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Soda is a liquid so it will absorb the High Frequency waves. UHF operates within 1GHz. The liquids and metals will affect on UHF waves so in order to solve this problem, you should use low frequency which is not affected by liquids or metals.
Reference: RFID sourcebook

QUESTION 6
Cartons of pasteurized milk products is been shipped from the manufacturer's warehouse to the retailers. RFID tags are placed on each carton. The RFID tags should be able to inform others about the sensitive nature of the products and when it is been shipped and how much did it take to reach consumers. Which statement is TRUE of this scenario?

A. RFID tags cannot with stand high-pressure pasteurization
B. The same type of tags should be used for all food products.
C. All types of RFID tags can withstand high-pressure pasteurization
D. Special tags should be used for food products that are pasteurized.

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation
The RFID tags on pasteurized food products should be special. Special RFID tags are temperature sensor tags. Temperature sensor tags are used on perishable items. These tags can sense the temperature of the place where the cartons are placed.
Reference:http://www.nttdata.co.jp/en/media/2006/030900.html

QUESTION 7
Which type of tags should you use for this implementation? (Choose two.)

A. Passive tags only
B. Active tags only
C. Semi passive tags only
D. A combination of active and passive tags

Correct Answer: AD
Section: (none)
Explanation

Explanation/Reference:
Explanation

QUESTION 8
An RF-opaque container poses what sort of problems?

A. RF -opaque containers may cause multipath.
B. RF -opaque containers may lead to absorption of RF energy.
C. RF -opaque containers may cause tag collisions.
D. RF -opaque containers may lead to increased reflected power from tags.

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation
The RF opaque containers are made of metals or material that hinders the effectiveness of RF waves. RF opaque containers might not absorb RF energy, they will definitely scatter it and cause multipath. Multipath is a propagation event that results in RF reaching the receiving antenna by two or more paths. The effects of multipath include constructive and destructive interference and phase shifting of the signal.
Reference: http://en.wikipedia.org/wiki/Multipath

QUESTION 9
Which two statements are true of inductive tag coupling? (Choose two.)

A. Inductive tag coupling functions best in either the LF or the HF band.
B. Inductive tag coupling operates between 300 MHZ and 1 GHZ.
C. Inductive tag coupling is also referred to as magnetic coupling.
D. Inductive tag coupling can work in FDX mode.

Correct Answer: AD
Section: (none)
Explanation

Explanation/Reference:
Explanation
Inductive coupling is a mutual inductance between the two circuits. It is transfer of energy from one circuit to another by mutual inductance. A few RFID tags and readers exchange information through inductive coupling between antennas. Inductive tag coupling functions best in LF and HF band. It can also work in FDX mode.
Reference: http://www.technovelgy.com/ct/Technology-Article.asp?ArtNum=45

QUESTION 10
You are an Certkiller engineer. You are assigned to implement an RFID system in the Certkiller bookstore inside the Certkiller regional office. You have devised an RFID system to track books and use them to gather information about the books. Which type of frequency signal should you use for this RFID system?

A. Microwave
B. Low frequency
C. High frequency
D. Ultra high frequency

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation
You should use High Frequency in this RFID system because HF operates at 13.56 MHz and it is less costly to produce than Low frequency coils. Moreover, HF will also enable you to read for a certain distance since the book shelves are located far apart. You can use HF waves to track the desired books and where they are currently placed. LF is expensive and is not going to work in a book store. Similarly, UHF tags are too much for this RFID system. You don't need UHF tags since HF can do the job pretty nicely.
Reference: http://en.wikipedia.org/wiki/RFID

QUESTION 11
You are an Certkiller engineer hired to deploy an RFID application for a car manufacturing company. As per the design, sensory systems will be installed on engine components of cars to enable the company to remotely monitor the engine performance in real time. The RFID system should have a long read range. Active tags should be used in RFID application. Which two features of an active tag will be used in this RFID application? (Choose two.)

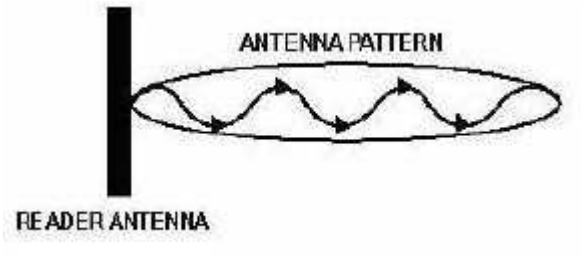
A. Active tags provide a cost-effective solution.
B. Active tags have the greatest storage and processing capabilities.
C. Active tags are large.
D. Active tags offer a very long read range.

Correct Answer: BD

Section: (none)
Explanation

Explanation/Reference:
Explanation:
Active tags can be read at distances of one hundred feet or more, greatly improving the utility of the device and it may have other sensors that can use electricity for power.
Reference: www.technovelgy.com/ct/Technology-Article.asp?ArtNum=21#AD

QUESTION 12
Which type of antenna creates the wave pattern displayed in the exhibit?



A. A patch antenna
B. A parabolic antenna
C. A linear polarized antenna
D. A circularly polarized antenna

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Linear polarized antenna radiates wholly in one plane containing the direction of propagation as depicted in exhibit.
Reference: www.air-stream.org.au/Polarization

QUESTION 13
You plan to implement a passive RFID-based tracking system in a manufacturing facility. The system will use an ultra high frequency (UHF).
Which two statements are true about this kind of RFID implementation? (Choose two.)

A. The RFID system will use far-field coupling.
B. The RFID system will use near-field coupling.
C. The RFID system will not use any type of coupling.
D. The RFID system will use a frequency band of 860 MHz to 960 MHz.

Correct Answer: AD
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option A and D are correct choices. Passive RFID-based tracking system offers far-field coupling as they offer potentially longer read range and use frequency band of 860 MHz to 960 MHz.

Reference: www.ee.washington.edu/faculty/nikitin_pavel/papers/RFID_2007.pdf

QUESTION 14
As an Certkiller engineer you have been hired to implement an RFID-based tracking solution in an automotive assembly facility. What should you do to ensure that the tags to be used in this solution could withstand high temperatures?

A. Use smart labels.
B. Place the tags in NEMA enclosures.
C. Pack the tags in heat-resistant packaging.
D. Tags cannot be used in high-temperature environments.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option C is correct choice. Heat resistant packing will provide the protective shielding for tags
Reference: www.manufacturingtalk.com/guides/rfid-tags.html

QUESTION 15
As an Certkiller engineer you recently deployed an RFID item tracking system in the manufacturing facility. Read range of the RFID system needs to be increased in order to cater the present business requirements. In order to achieve that you need to make substantial modification in the RFID equipment requires recertification form FCC.
Which change in the RFID equipment will NOT require recertification from FCC?

A. Change in antenna type
B. Increase in antenna power
C. Change in operation frequency
D. Change in interrogator location

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Any sort of substantial modification (e.g., frequency change, power increase, etc.) to RFID equipment requires recertification before it can be legally operated by FCC but change in interrogator doesn't require recertification.
Reference: www.rfidjournal.com/article/articleprint/1484/-1/82/

QUESTION 16
As an Certkiller engineer you implemented an RFID-based tracking system in a warehouse facility. According to the design requirements, stationary interrogators are required to be mounted on the forklifts.
Which two factors should you consider in this implementation? (Choose two.)

A. Volume of exhaust fumes emitted by the forklifts
B. Durability of the interrogators
C. Time for which the tagged item remains in the read zone
D. Cabling between antenna, interrogator, and power supply

Correct Answer: BD
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Stationary interrogators are more durable in nature as they are fixed at one place so option B is correct, option c is also applicable in this scenario due to cabling requirements between antenna, interrogator and power supply.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 17
You are an Certkiller engineer. A toy manufacturing company, which recently deployed an RFID system to track the movement of items from the manufacturing unit to the shipping point, has hired you. The items are packaged in pallets made of yellow pine. The pallets are tagged by using passive tags. Low tag readability is a problem since the deployment of the RFID system. You find that the interrogator signal strength decreases when the tagged pallets.
What is the cause of low tag readability in his scenario?

A. RF-transparent material
B. RF-absorbent material
C. RF-refractive material
D. RF-opaque material

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Yellow Pine material would allow the radio waves to propagate through it but with substantial loss of energy, as it is an RF-absorbent.
Reference: http://wireless.itworld.com/4985/051004_book_rfidsourcebook/page_1.html

QUESTION 18
You are an Certkiller engineer; an automobile manufacturing company has hired you. The company decides to implement an RFID system to track the movement of the manufactured cars. Which two frequency ranges should you avoid while deploying the new RFID system to minimize RF interference? (Choose two.)

A. Microwave range
B. Low frequency (LF) range
C. High frequency (HF) range
D. Ultra high frequency (UHF) range

Correct Answer: AD
Section: (none)
Explanation

Explanation/Reference:
Explanation
To minimize RF interference, you should not use Microwave range or UHF range. Microwave range is above UHF range which includes SHF (Super High Frequency) and EHF (Extreme High Frequency). UHF is also included in Microwave range. The UHF and higher frequencies can cause RF interference which results in poor tag readability.

You should use HF or LF range to track the movement of manufactured cars.
Reference: http://en.wikipedia.org/wiki/UHF

QUESTION 19
As an Certkiller engineer you have been hired as an RFID consultant in the weather forecasting department of a national television station. You need to deploy an RFID system to monitor weather conditions and generate weather reports. You need to select a tag type that can be used to sense changes in the weather, generate real time weather reports and broadcast the report to all the branches of the station nationwide. This RFID application requires a high tag response time.
Which tag type should you use in the given scenario?

A. Passive tags
B. Semi-active tags
C. SAW tags
D. Active tags

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Active tags would be best suitable in this scenario because of high tag response time.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 20
A small-sized manufacturer supplies electronic goods to a retailer. The retailer has made it mandatory for all the suppliers to implement RFID technology at their facilities. The company needs to make a choice and decide to go either for the slap-and-ship approach or implement a full-scale RFID integration.
In which condition should the company opt for the slap-and-ship approach?

A. Low tag cost and low product volume
B. High tag cost and low product volume
C. High tag cost and high product volume
D. Low tag cost and high product volume

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Slap and Ship is a minimal volume approach that involves placing RFID tags on cases and pallets in a distribution center for those goods being shipped to customers with an RFID mandate so option B is best choice in this scenario
Reference: www.dcsysinc.com/rfid.htm

QUESTION 21
In which type of RFID application should you NOT use vicinity passive cards?

A. Asset tracking
B. Airline baggage
C. Animal tracking
D. Automatic toll collection

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation
Vicinity passive cards contain passive EPC Gen 2 RFID tags. The read range of these cards is up to 20 feet. This RFID application should not be used in automatic toll collection because the car is near the booth and vicinity passive card are for long distance tracking. These cards can be used in passports, airline baggage, animal tracking and asset tracking.
Reference: http://www.rfidjournal.com/article/articleview/2740/

QUESTION 22
Certkiller is planning to install an RFID access control system to ensure restricted access for the employees in the company building. The company plans to place the reader at the entrance door of the building. Employees will be monitored at the entry gate that is approximately 15 feet from the entrance door.
Which type of reader antenna should be used in this scenario?

A. Parabolic antenna
B. Linear polarized antenna
C. Dipole antenna
D. Circular polarized antenna

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option B is best choice in this scenario as linear polarized antenna supports long read range.
Reference:www.informit.com/articles/article.aspx?p=485644&seqNum=5

QUESTION 23
As an Certkiller RFID engineer you are given the responsibility to implement an RFID-based system only in the research department of a company. The research department is located at one part of a floor in the company building. The RFID interrogation zone should be constrained inside the research department's area.
Which device should you use?

A. Sensor
B. Actuators
C. Annunciators
D. Attenuators

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Attenuators reduce the field strength in a controlled manner.
Reference: http://epsfiles.intermec.com/eps_files/eps_man/936-000.pdf

QUESTION 24
You implement network interrogators in an RFID-based tracking system in a facility.
Which two statements are true of network interrogators? (Choose two.)

A. Network interrogators contain an internal memory to store the read tag data.
B. The performance of network interrogators is affected by the length of the cable.
C. RS-232 and RS-485 cables are used to connect the network interrogator to the host computer.
D. The communication link used to connect a network interrogator with a host computer is not very reliable.

Correct Answer: AD
Section: (none)
Explanation

Explanation/Reference:
Explanation
Network interrogators contain an internal memory to store the read tag data. They are extremely useful. However, the communication link that connects a network interrogator with a host computer is not reliable.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 25
As an Certkiller engineer you have been assigned the task of deploying an RFID dock door system to track movement of items in a manufacturing facility. Since the deployment of the system, you are facing the low tag readability problem. When you closely examine the system, you find that the walls reflect RF energy from the readers installed.
Which effect will NOT be produced due to the bouncing back of RF signals by the walls?

A. Destructive interference
B. Delay in receiving signals
C. Constructive interference
D. Change in antenna frequency

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation
The bouncing of RF signals by the walls will affect tag readability, but it will never affect the antenna frequency. Antenna frequency is certainly not an issue since it is set to transmit RF signals with a specified range. The bounce back of RF signals will affect tag readability as the tags are not be read by the reader and the information is not collected in a perfect manner.
Reference: RFID sourcebook

QUESTION 26
You are hired by a manufacturing company as an RFID consultant to deploy an RFID solution to track item movement in the company. There are 10 dock doors in the RFID system and 20 interrogators installed at the various dock doors. You want to prevent interference among the interrogators installed at the various dock doors.
Which two approaches should you adopt? (Choose two.)

A. Frequency hopping
B. Time division multiplexing
C. Tag and interrogator RF spectrum separation
D. Prevention of continuous interrogator signal transmission

Correct Answer: AD
Section: (none)
Explanation

Explanation/Reference:
Explanation:
The frequency hopping prevents the collision between the readers in different tag zones and non-continuous interrogator transmission also will reduce the interference
Reference: http://epsfiles.intermec.com/eps_files/eps_man/936-000.pdf

QUESTION 27
Which statement is true regarding a slap-and-ship RFID application?

A. The tag readability is tested after attaching the tags to an item.
B. The application is implemented to conform to the retailer's requirements.
C. The application is cost effective with no hidden costs.
D. The tag is always attached to an item at the manufacturing facility.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Slap-and-ship RFID application doesn't need a lot of attention. As the name suggest you have to slap the tag on the cartons and ship it. This application is implemented to conform to the retailer's requirements. If the retailer requires the shipment urgently, you have to implement this application.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 28
A DVD library hired you to implement an RFID solution in order to avoid the theft of DVDs from the library. You plan to put tags on the DVDs to detect theft. The tag on a DVD will be turned off only when the DVD is purchased by a customer. Which type of RFID tags should you use in this scenario?

A. SAW tags
B. Active tags
C. EAS tags
D. passive tags

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Active tags are best choice in this scenario as active tags has a small lithium battery that powers its radio, circuitry and memory.
Reference: http://epsfiles.intermec.com/eps_files/eps_man/936-000.pdf

QUESTION 29

Which factor will NOT affect the read range of an interrogator antenna?

A. Tag type
B. Power of the antenna
C. Tag storage capacity
D. Frequency of operation

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Type of tag, antenna power and its operating frequency affect the read range of an interrogator antenna, so best choice is option C.
Reference: http://epsfiles.intermec.com/eps_files/eps_man/936-000.pdf

QUESTION 30
As an Certkiller engineer you planned to implement a conveyor-based RFID system in a manufacturing unit. The interrogator that you plan to use will have two antennas. One antenna will be used for transmission and the other for receiving information from tagged items that are on the conveyor belt.
How should you set up antennas with respect to the motion of the conveyor belt?

A. Both the antennas should first operate as transmitting antennas and then as receiving antennas.
B. Both the antennas should first operate as receiving antennas and then as transmitting antennas.
C. The tagged items should first be in the read range of the transmitting antenna and then in the read range of the receiving antenna.
D. The tagged item should first be in the read range of the receiving antenna and then in the read range of the transmitting antenna.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation
To ensure that one antenna correctly transmits the information and the other receives it, you should placed the tags on the item in such a way that the tags gets in to the read range of transmitting antenna and as the belt moves the item with the tag comes in the read range of the receiving antenna. You should also place the antennas in a way that it directly aligns with the tags. You should consider the polarization and orientation of the antennas to effectively read tags on cartons.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 31
As an Certkiller engineer you implemented an RFID system in a facility. As per design you need to install interrogator antennas on all the dock doors in the facility. The RFID system should use different antennas to receive and transmit information and should not be sensitive to tag orientation.
Which antennas should you use in this system?

A. A yagi monostatic antenna
B. A patch monostatic antenna
C. A linear polarized bistatic antenna

D. A circular polarized bistatic antenna

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:
A Circular polarized bistatic antenna is actually two antennas under the same random with two ports (connectors). The transmitted signal is being transmitted through one port (connector) and the received signal with the other port and it is not sensitive to tag orientation so option D is best choice in this scenario.
Reference: http://www.mtiwe.com/page.aspx?parent=23&id=283&type=2

QUESTION 32
A medium-sized goods manufacturing company has hired you as an Certkiller RFID engineer. The company sells the manufactured items to Surfside, a chain of shopping malls. Recently, Surfside has announced that it will buy products only from vendors who provide items with RFID tags. Therefore, the manufacturing company has decided to deploy a slap-and ship RFID application to conform to Surf Side's requirements.
What are two advantages of the slap-and-ship application? (Choose two.)

A. Less time and effort is required for compliance.
B. The business processing time is reduced.
C. It is cost effective with no hidden costs involved.
D. Minimum changes are required in the existing processes and infrastructure.

Correct Answer: AD
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option A and D are best choices. A slap-and-ship application might be least disruptive to the business operations. It can also provide a company with valuable lessons in RFID should it want to take the application to the next level and integrate it into its business processes
Reference: http://safari.oreilly.com/0131851373/ch08lev1sec1

QUESTION 33
Which two statements are true of far-field coupling? (Choose all that apply)

A. Far-field coupling provides longer read ranges than near-field coupling.
B. Far-field coupling provides the same read range as that of near-field coupling.
C. Far-field coupling is used only by low frequency (LF) and high frequency (HF) systems.
D. Far-field coupling is used only by ultra high frequency (UHF) and microwave frequency systems.

Correct Answer: AD
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option A and D are best choices as radiative far-field coupling is applicable to

potentially longer read range UHF and microwave RFID.
Reference: http://whitepapers.silicon.com/0,39024759,60163368p,00.htm

QUESTION 34
Certkiller appointed you to deploy an RFID item tracking system to monitor the movement of the arms from the exit gate. The system should operate in the ultra high frequency (UHF) range. The data stored in the tags should be encrypted to ensure the security and confidentiality o the product information. The system should also provide a long read range.
Which option should you choose to provide the desired performance of the RFID system?

A. Use an active tag with a reader antenna power of 15 mW.
B. Use a passive tag with a reader antenna power of 15 mW.
C. Use an active tag with a reader antenna power of 25 mW.
D. Use a passive tag with a reader antenna power of 25 mW.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option C is correct choice. Active tags provide longer read ranges so use an active tag with reader antenna power of 25mW.
Reference: http://epsfiles.intermec.com/eps_files/eps_man/936-000.pdf

QUESTION 35
You implement serial interrogators in an RFID-based tracking system in a facility.
Which statement is true of serial interrogators?

A. Serial interrogators have low maintenance cost.
B. Maintenance of serial interrogator firmware is hassle free.
C. A serial interrogator setup has an unlimited number of serial ports.
D. The performance of a serial interrogator is dependent on the cable length.

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option D is best choice as serial interrogator performance is decided by the cable length.
Reference: http://epsfiles.intermec.com/eps_files/eps_man/936-000.pdf

QUESTION 36
A toll collection booth wants to implement an RFID system to automate the toll collection process to reduce labor costs and toll collection time. The prime consideration is they are looking for a low cost solution.
Which type of RFID tags should be used?

A. Active HF tags
B. Passive UHF tags
C. Passive HF tags
D. Active UHF tags

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option B is the best option for this scenario because it is more cost effective than active tags.
Reference: http://en.wikipedia.org/wiki/RFID

QUESTION 37
An automobile production company has hired you as an Certkiller RFID specialist. The company plans to deploy an RFID system in the production line to monitor each phase of the production process. The RFID system to be deployed requires a line of sight and should provide high data transfer rate.
Which type of tags should you use to provide the desired performance of the RFID system?

A. Active UHF tags
B. Passive UHF tags
C. Active HF tags
D. Passive HF tags.

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Active HF tags provide high data transfer rate with highly sophisticated anti-collision multi tag handling algorithm to allow tag communication even when thousands of tags are within the interrogator read zone.
Reference:
www.identecsolutions.com/fileadmin/user_upload/PDFs/product_sheets/i-Q8_V5.3_Eng.pdf

QUESTION 38
As an Certkiller RFID engineer, you have been hired by a hospital to deploy a cost-effective RFID system in the pharmacy to monitor the temperature changes in the cupboards and take appropriate action. The hospital pharmacy stores different types of medicines. Each type of medicine needs to be stored at a specific temperature. Different types of medicines are stored in different cupboards that ate maintained at different temperatures and pressures.
The reader is placed at the entry door of the store that is approximately 100 feet from the cupboards. Your solution must sense temperature changes from a distance of 100 feet at minimum cost.
Which type of RFID tag should you use?

A. Active tags
B. Passive tags
C. Semi-passive tags
D. Surface acoustic wave (SAW) tags

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

Explanation:
Passive tags have a read range of up to 300 feet (100 meters) and they have built in temperature sensors.
Reference: www.rfidjournal.com/article/articleprint/1337/-1/1

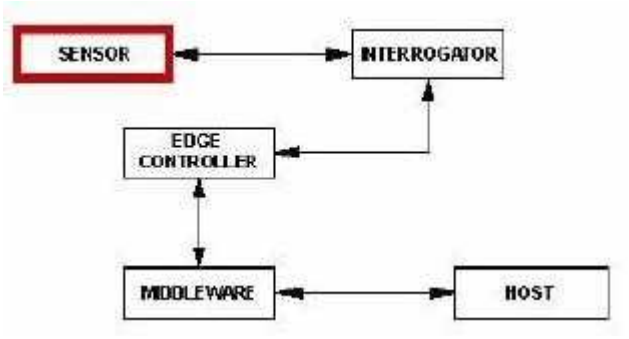
QUESTION 39
As an Certkiller engineer you have been appointed to deploy an RFID system to monitor the movement of containers carrying military equipment. Information must be continuously provided to the company regarding location of the containers in real time. You need to select tags that are both readable and writable. The read range required is up to 250 meters.
Which tag type should you use in this scenario to meet the requirements?

A. passive tags
B. EAS tags
C. active tags
D. semi passive tags

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option C is correct choice as active tags provide larger reading range and they are readable/writable.
Reference: http://epsfiles.intermec.com/eps_files/eps_man/936-000.pdf

QUESTION 40
As an RFID engineer you have been assigned to implement an REID-based material tracking solution in a warehouse facility. You create a logical architecture diagram for the RFID solution by using the site diagram created by the system architect.
The following exhibit depicts a logical architecture diagram.



What is the function of the highlighted component in the logical architecture diagram?

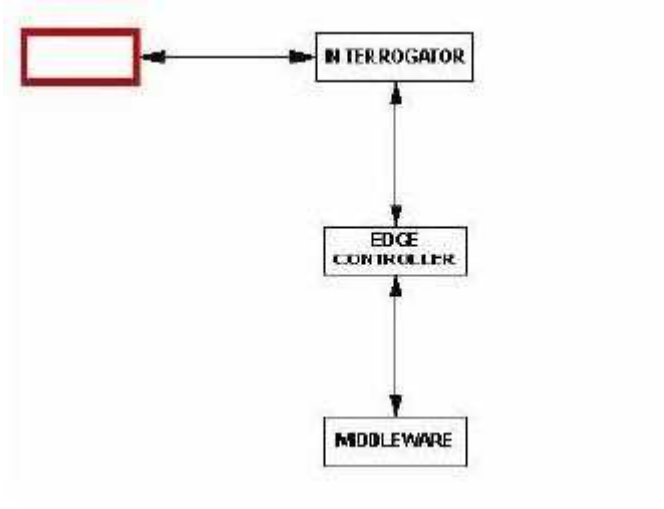
A. To power the interrogator
B. To constrain the interrogation zone
C. To provide an input trigger to the interrogator
D. To control input/output (I/O) devices, filter tag information, and send tag information for further processing

Correct Answer: C
Section: (none)

Explanation

Explanation/Reference:
Explanation:
Sensors indicates an item is coming that needs to be read. So the sensors provide an input trigger that alerts the interrogator to get ready to read the tag on the cartons. This way the interrogator gets early information on the arrival of the cartons with tags that an interrogator should read.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 41
Certkiller plans to deploy an RFID access control system to restrict access inside the office complex. Smart cards will be provided to employees. According to the plan, the interrogator at the entry point should be turned on only when a smart card enters the interrogation zone. You create a logical architecture diagram for the RFID system.
From the following diagram, you need to determine which logical component should be added to the logical architectural diagram to ensure that the interrogator is automatically turned on and off.



Which component should you add?

A. Annunciator
B. Sensor
C. Actuator
D. Attenuator

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Sensor is required in this scenario. Sensor detects the product /item presence and gives a signal/alarm to interrogator.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 42
As an Certkiller Company engineer you have been hired to implement an REID-based tracking system for an electronic device manufacturing company.

While performing an analysis of the environment, you detect that the devices are exposed to transient energy that can damage the tags.
What is a probable cause for the damage of tags?

A. Static charges
B. The high power of the antenna
C. Electrical overstress (EOS)
D. Electrostatic discharge (ESD)

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Electro-magnetic interference is also referred to as electric overstress. It occurs when a device is exposed to a transient energy, or voltage temporarily overstressing the circuit and causing damage.
Reference: www.simco-static.com/data/RFID%20Highlights.pdf

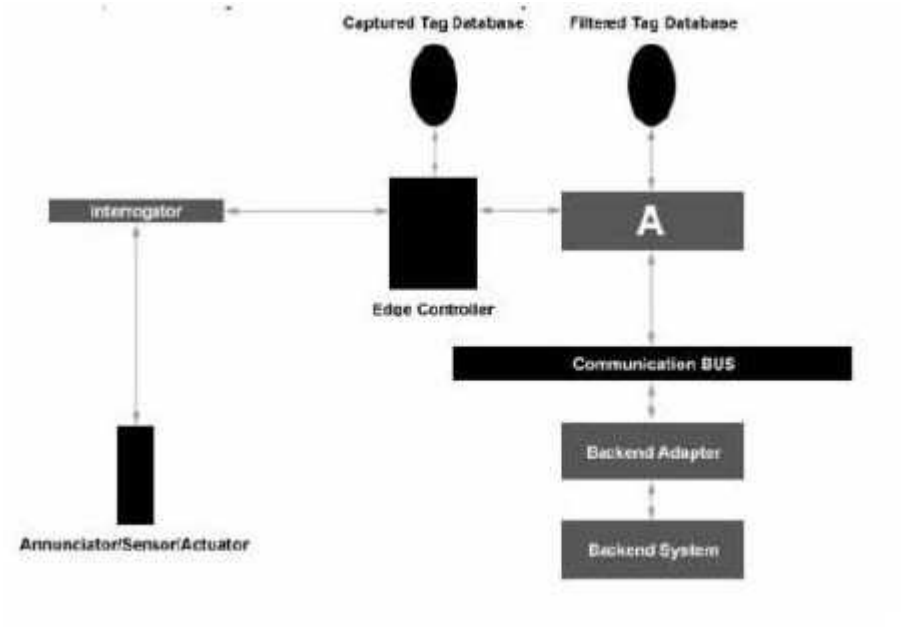
QUESTION 43
As an Certkiller Company RFID engineer you have been hired by a manufacturing company to deploy an RFID conveyor system to automatically tag items and then track them on the conveyor system.
The RFID system was tested extensively under actual operating conditions before the system was made live the real life environment. For the past few weeks, you have been experiencing the problem of low tag yield. After examining the tags, you find that many tags are damaged being tested at the time of system deployment. You need to identify which tags have failed as the failing tags need to be replaced in a more timely fashion.
Which measure should you take?

A. Use slap-and-ship tags
B. Implement multiple tag validation checkpoints
C. Train the employees to handle tags
D. Take steps to counter the effects of electrostatic discharge (ESD)

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Multiple tag validation points provide a checkpoint to ensure immediate identification of failed tags.
Reference:www.patentstorm.us/patents/7005967.html

QUESTION 44
The exhibit provides a logical architecture of an RFID system that is given to you in order to design an RFID system. The logical architecture is going to help you in the design.



What does component 'A' represent in the exhibit?

A. Tags
B. Middleware
C. Host computer
D. Enterprise application

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation
In the above exhibit, A represents the Middleware. The Middleware applies filtering, formatting or logic to tag data captured by a reader. The captured data is processed by a software application.
Reference: http://www.rfidupdate.com/articles/index.php?id=1176
FID middleware applies filtering, formatting or logic to tag data captured by a reader so the data can be processed by a software application.

QUESTION 45
Which two primary safely measures for RFID hardware should you consider while deploying interrogators in a facility? (Choose two)

A. Proper grounding should be done
B. Wear grounding straps while deploying interrogators
C. Only two antennas should be attached to the interrogators
D. Multiple interrogators should not be installed in close proximity,
E. Testing should be performed before implementing the complete setup.

Correct Answer: AE
Section: (none)
Explanation

Explanation/Reference:

Explanation:
Interrogators installation should be done very carefully, keeping in mind all safety factors, proper grounding of equipment is must and they need to be tested before they are used in real life environment.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 46
As an Certkiller engineer, a manufacturing company who plans to implement four conveyor systems to track the movement of the manufactured items from the manufacturing unit to the shipping point has hired you.
Based on the specification provided by be company, a site diagram for the deployment of the RFID conveyor system has been created. When you analyze the site diagram, you realize that the proposed locations of the conveyor belts place them very close to each other. This could lead to interrogator interference and degrade the performance of the RFID system. The distance between the conveyor belts cannot be increased due to limited floor area.
What should you include in the site diagram to minimize the interrogator interference in this scenario?

A. Annunciators
B. Attenuators
C. The interrogator read range
D. The orientation of tagged items

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Choice B is correct answer in this scenario. Use of an attenuator would reduce the signal strength and hence the interference.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 47
As an Certkiller engineer, a plastic toy manufacturing company has hired you. The company wants to implement an RFID dock door system to track the movement of the manufactured toys from the manufacturing facility to the shipping point. In order to choose the vendor for RFID tags you analyze the latest reports on EPC tag performance of various vendors generated by the RFID Alliance Lab. Which tag performance parameter should you NOT consider in the given scenario when selecting a vendor for RFID tags?

A. Tag readability at various orientations
B. Tag storage capacity
C. Tag readability at various distances
D. Tag readability near water and metal

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Tag readability is not impacted near water and metal. It only effects in case metal or water is contained in the product or package
Reference: www.foodprocessing.com/articles/2005/101.html

QUESTION 48
As an Certkiller RFID engineer you have been hired to implement an RFID-based control system in a business complex. You need to design a site diagram for the RFID system. Which two statements are true of designing the site diagram? (Choose two)

A. The site diagram should never be an exact replica of the existing infrastructure design.
B. The site diagram should be designed considering the currently planned RFID hardware placements.
C. The site diagram should be designed considering the infrastructural changes planned for the future.
D. The site diagram should include the placement of the RFID hardware and their connections with each other.

Correct Answer: CD
Section: (none)
Explanation

Explanation/Reference:
Explanation
To design a site diagram, you should consider the infrastructural changes planned for the future. This will be helpful in long term planning. The site diagram should include the placement of the RFID hardware and their connections with each other. This is particularly important because if you don't include the placement of RFID hardware and their connections with each other, you wont be able to implement the site diagram effectively.
Reference: RFID sourcebook

QUESTION 49
Certkiller Company plans to deploy an access control RFID system. The RFID system will operate at 13.56 MHZ. which ISO standard should you follow when performing an RFID device conformance test in this scenario?

A. ISO 18047 Part 2
B. ISO 18047 Part 3
C. ISO 18047 Part 4
D. ISO 18047 Part 7

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option B is correct choice. ISO 18047 part 3 defines Parameters for Air Interface Communications at 13.56 MHz
Reference: www.hightechaid.com/standards/RFID_Standards_SC31.htm

QUESTION 50
As an Certkiller Company RFID engineer you have been hired to diagnose a low tag read problem in an ultra high frequency (UHF)-based RFID automatic toll collection system.
What should you do to diagnose this problem?

A. Upgrade the interrogator firmware
B. Increase the power of the interrogator antennas
C. Change the frequency system to high frequency (HF)

D. Refer the site diagram blue print to check the various parameters

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation
To diagnose low tag read problem or any problem in this case, you should first refer to the site diagram blue print to check parameters and understand the whole RFID system implemented on the site. The diagram will inform you about the placement of antennas, readers and tags. After identifying the problem, you can easily solve it accordingly.
Reference: RFID Sourcebook

QUESTION 51
As an Certkiller engineer you have been hired to design an RFID system to implement a building access control system.
You are given a site diagram that was created earlier. Which tasks will the site diagram assist you to achieve? (Choose two)

A. Identify areas of high interference.
B. Estimate the performance of the RFID system.
C. Determine access point locations and hardware to be used.
D. Determine the ISO 18000 standard that the RFID system should follow.

Correct Answer: AC
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option A and C are correct choice. Site diagram would help to study areas of high interference and access points /hardware to be used.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 52
As an Certkiller RFID engineer you have been hired to implement an RFID-based tracking system in a garment manufacturing company. The tag specification provided by the vendor states that tags have been protected with anti-static coating. Which statement is true of the anti-static coating on tags?

A. Tags will not be damaged by coating on taps?
B. Tags will not be damaged by electrical overstress (EOS)
C. Tags will not damaged by electrostatic discharge (ESD)
D. Tags can acquire static electricity even with the coating

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation
The anti-static coating on tags will not be able to protect tags from static electricity. The tags can acquire static electricity even with the coating because the tags are constantly been rubbed with conveyers, belts, other carton etc. Even if the coating remains intact, the rubbing will create static electricity which will get pass through the coating. To protect a tag from static electricity, you should properly ground it to dissipate the static

electric charge.
Reference: RFID Sourcebook

QUESTION 53
As an Certkiller Company RFID architect you are responsible for designing an RFID site diagram for a manufacturing facility.
What is the primary requirement for successfully creating a physical architecture diagram?

A. Analyzing the technical variables
B. Assessing the financial capability of the company
C. Considering the application requirement for the RFID solution
D. Considering the technical specifications of RFID devices obtained from vendors

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
The very first step creating a physical architecture diagram is to analyze technical variables/requirements. Several technical variables need to be considered while designing and implementing an RFID solution like - frequency of operation, tags, readers, antennas, vendors, standards and maintenance.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 54
An RFID hardware manufacturing company is required to supply RFID tags and interrogators to a cosmetics manufacturing company that plans to deploy a conveyor system. The RFID hardware that is manufactured needs to be tested in an environment where there is no RF noise or electromagnetic interference (EM).
Which type of testing should you undertake to test the RFID hardware?

A. Pilot testing at the customer end
B. Lab testing
C. Full-scale or commercial testing at the customer end
D. Conveyor testing

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option B is correct choice. Lab testing would ensure error free working of RFID hardware.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 55
You are an RFID specialist for a private TV channel. The company has recently deployed an RFID access control system to restrict access to its premises. The company plans to deploy another RFID system to track the movement of videotapes from the entry gate to the studio. The tags on the videotapes will include information, such as the type of tape, the tape ID, the production date, and the production members.
The company plans to include small sensors attached to interrogators in the new RFID system to turn on the interrogators only when the tagged videotapes enter the

interrogation zone. This has been planned to ensure minimum interference between the two RFID systems. To save time and effort, you plan to make changes to the existing site diagram to include the new RFID system to be deployed.
Which change should you make to the existing site diagram to depict the new RFID system?

A. Show sensors in the site diagram
B. Show the tag information in site diagram
C. Show the locations of the new interrogators
D. Show the antenna power of the new interrogators

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option C is the best choice. The new interrogators placement in the site diagram would reduce effort and time to make changes to existing diagram.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 56
You are an RFID engineer. You have recently installed a conveyor -based RFID tracking system in keeping with the site design provided by the system architect in manufacturing company.
To optimize the tag yield of the interrogators, you reduced the speed of the conveyor and manufacturing process to synchronize with the speed of the conveyor.
Management wants to increase the manufacturing capability.
What should you do?

A. Implement the complete RFID system from scratch.
B. Use the latest generation of tags with new technology to increase the manufacturing capability.
C. Modify the initial site design after consulting the system architect.
D. You cannot change the initial design document. Therefore the manufacturing capability cannot be increased.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation
You should consult the system architect and modify the initial site design. You will be able to place interrogators appropriately and speed up the conveyor and manufacturing process
Reference: RFID Sourcebook

QUESTION 57
A company plans to deploy an RFID application on a highway for toll collection.
Two requirements need to be fulfilled by the application. An alarm should ring when a vehicle without the requisite tag information passes below the roadside antenna. The robotic arm should open when the interrogator receives authentic tag information from a vehicle which two components should be included in the architecture diagram to fulfill the requirements specified in this scenario?

A. Sensor and actuator

B. Annunciator and actuator
C. Middleware and sensor
D. Edge controller and annunciator

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option B is correct choice. An actuator is a mechanical device for controlling or moving objects. Examples of actuators include a programmable logic controller (PLC), robot arm, and mechanical arm for an access and an annunciator is an electronic signal or indicator, which will act an input trigger to a reader (like alarm in this scenario).
Reference:http://www.informit.com/articles/article.aspx?p=413662&seqNum=2

QUESTION 58
While implementing an RFID-based tracking system, it is recommended that you conduct a detailed testing of the operating environment by using all the RFID hardware and software that you plan to deploy.
What does testing of RFID hardware and software determines?

A. It determines the impact of environmental factors on the RFID system.
B. It determines if the RFID system conforms to the FCC rules and standards.
C. It determines whether the vendor has provided the correct hardware or not
D. It determines if the RFID system is rugged before implementation

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation
When you test the RFID hardware and software, you get to know the impact of environmental factors on the RFID system. This test will help you determine the performance of RFID system in various environments. You will know about the RF interference and various other factors.
Reference: RFID sourcebook

QUESTION 59
Which statement is NOT true of ground loops?

A. Ground loops create electric potential at the component ground node.
B. Due to ground loops duplicate ground paths pick up interference currents.
C. Different RFID device require different ground connections to prevent ground loops.
D. Due to ground loops RF signals intermingle with noise.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Different points on earth may have different electrical potential - the difference could be as big as hundreds of volts - for example, due to the influence of solar wind. Therefore, by grounding two components (like readers) of a system to different points on earth, we

create a ground loop instead of avoiding them.
Reference: Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 60
You implement an RFID-Based tracking solution in a manufacturing facility. Based on the site diagram you plan to mount the interrogators on ten conveyor or belts in the facility.
Which step should you undertake to successfully implement the solution? (Choose two)

A. Train all the employees
B. Use only active tags for the implementation
C. Perform tests before and after the installation
D. Avoid making changes to the original scope and design of the RFID solution

Correct Answer: CD
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Testing needs to be done prior to making RFID hardware functional in real environment. As much as possible try to avoid making any changes in initial scope and design of the proposed solution once deployment is already started.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 61
You have been hired as an RFID engineer by a manufacturing company to deploy an RFID system. The company plans to purchases RFID tags and interrogators from an RFID hardware vendor manufacturer.
Which type of RFID hardware testing is NOT required in the scenario?

A. Pilot testing the hardware at the customer end
B. Lab testing of the hardware at the vendor end
C. Full-scale testing of the hardware at the customer end
D. Lab testing of the hardware at the customer end

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation
There is no need to perform lab testing of the hardware at the client end. The manufacturer has already conducted the lab testing and in most cases, the hardware is certified by the manufacturer.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 62
You plan to implement an RFID-Based tracking system in a manufacturing company.
You are required to ensure that the RFID equipment, including the tags, is not damaged by electrostatic discharge (ESD) At which stages can the tags acquire static charge? (Choose all that apply)

A. Cooling
B. Heating

C. Reading
D. Labeling
E. Packaging
F. Manufacturing

Correct Answer:
Section: (none)
Explanation

Explanation/Reference:
Answer: D, E, and F

Explanation:
Option D, E and F are correct choices. Tags acquire static charge in a labeling, packaging and manufacturing stage
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 63
You are an RFID specialist in a manufacturing company. The company is using a conveyor system for the last few months to track manufactured items. The interrogators are unable to read the tags. You examine the wiring and notice that all the RFID devices are grounded at one point. After examining the tags you discover that the silicon transistors of the tags are burnt out.
What is the possible cause for the tag damage?

A. Ground loop
B. Electrostatic discharge (ESD)
C. Interrogator collision
D. Electrical overstress (EOS)

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
ESD is cause of damage in this case as single grounding is to be used only in low frequency.
Reference: www.epsfiles.intermec.com/eps_files/eps_man/936-000.pdf

QUESTION 64
A manufacturing company plans to implement an RFID-based item tracking system in the warehouse facility and they hired an RFID specialist to design the site diagram for the new RFID system. The site diagram depicts that the tagged items occupy a large area in the interrogation zone. The site diagram shows one interrogator.
On analyzing the site diagram you realize that the proposed designing of RFID system may result in low tag yield due to the tag yield due to the large tag location range. You need to address the problem of log tag yield by modifying the sit diagram using a cost effective measure.
What should you do?

A. Show multiple antennas in the site diagram
B. Show multiple interrogators in the site diagram
C. Show multiple actuators in the site diagram
D. Show the interrogator antenna with increased power

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Multiple antennas placement separately for read and separately for write process would improve the low tag read yield
Reference: www.rfidalliancelab.org/publications/FY2006-TR-40980-01.pdf

QUESTION 65
You are an RFID engineer in a company manufacturing a smart weapons RFID system. Which two statements are true of smart weapons? (Choose two)

A. Smart weapons are economical to implement.
B. Field tests are necessary before deploying a smart weapon system.
C. A smart weapon system cannot be implemented on a large scale.
D. A smart weapon system can sense the external conditions of terrain.

Correct Answer: BD
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Smart weapons need to be tested in the field before being used as they are meant to sense the external conditions of terrain.
Reference: www.aiti.gov.bn/events/rfid-seminar_may07_intro.html

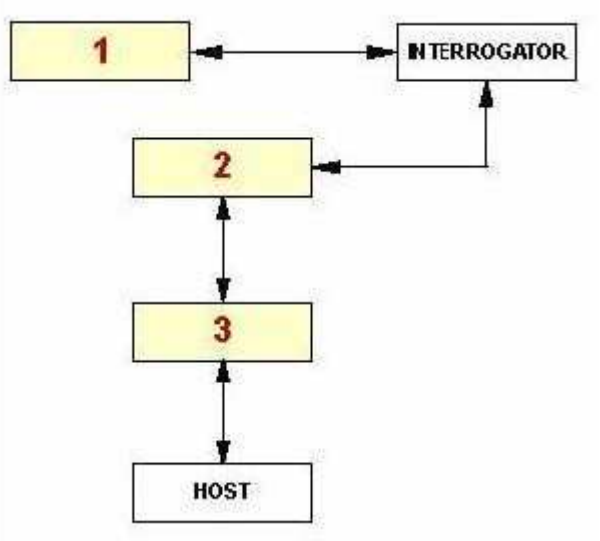
QUESTION 66
Which effect is NOT produced by ground loops in an RFID system/?

A. The ground current takes more than one path to return to the grounding electrode.
B. Noise intermingles with normal RF waves radiated by the RFID system.
C. Tags are damaged due to the burning out of silicon transistors.
D. The RFID system picks up interference currents.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Choice C is current option. Tags are damaged due to electromagnetic interference not because of ground loops.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 67
As an Certkiller engineer you have been hired by a manufacturing company plans to deploy an RFID system for inventory management.
You create a logical architecture diagram for the RFID system as shown in the following exhibit.



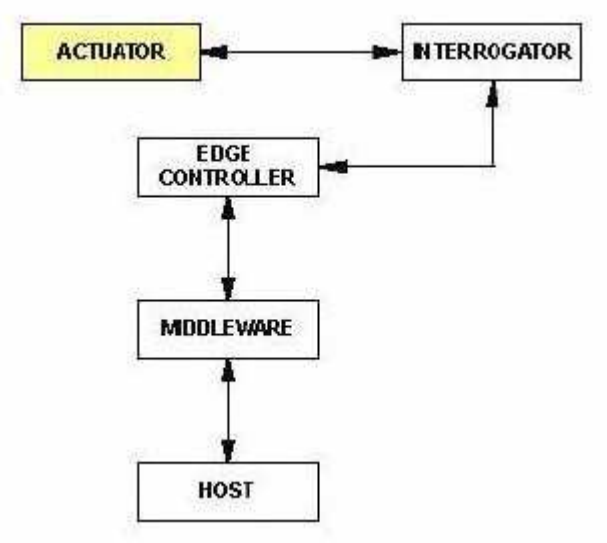
A component of the RFID system is used to filter tag data and pass only the useful information to the enterprise application.
Which option describes the component and its location correctly in the logical architecture diagram?

A. Sensor at position 3
B. Edge controller at position 1
C. Interrogator antenna at position 2
D. Middleware at position 3

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation
Middleware is thought to filter tag data and pass only useful information to the enterprise application. Therefore, Middleware at position 3 will filter tag data and pass the useful information only.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 68
As an Certkiller engineer, a shirt manufacturing company hires you to implement an RFID system to automate the product packaging system. Different packaging will be used for shirts of different price ranges. According to the RFID system plan, shirts will be tagged. Based on the category and price information stored in a tag, appropriate packaging will be used.
The following logical architecture diagram has been designed for this RFID system:



What does the actuator in the logical architecture diagram do?

A. It automatically turns the interrogator on and off.
B. It rings an alarm when a tagged item is not read successfully
C. It monitors and controls a packaging line
D. It decreases the interrogator signal strength

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
The actuator highlighted in the logical architecture diagram will monitor and control the packaging line. An actuator is a mechanical device that is used to either control or move an object. For example, an actuator may be used to open an access gate when an interrogator successfully reads a tag. A programmable logic controller (PLC) is one of the most versatile actuators that can be used in RFID systems to automate a process. Using a PLC can perform a variety of mechanical tasks, such as monitoring and controlling a product packaging line or applying a predetermined amount of torque to nuts in an automobile production line. In this scenario, the interrogator, after reading a tagged item, will instruct the actuator to perform a specific task, such as moving the tagged item to an appropriate packaging line depending upon the category and price of the item.
Reference:
www.certmag.com/articles/templates/CM_SG_Article_Template.asp?articleid=2420&zoneid=270

QUESTION 69
You are an RFID engineer at Certkiller .com. You have been assigned to implement an RFID system in a local apparel warehouse. Another RFID system is already in place that tags the forklifts and cargo vehicles in the warehouse. There is a full scale back office in the warehouse too. Which three statements are true of this scenario? (Choose three.)

A. Periodic checks should be performed for introduction of new interfering devices.
B. Sources of interference may include cordless phones, microwave ovens, and other RF systems.
C. Site analysis will not record the locations of interference sources that are not active.

D. New devices installed after site analysis cannot affect the performance of the RFID system.
E. Site analysis will eliminate possible RF interference.

Correct Answer: ABC
Section: (none)
Explanation

Explanation/Reference:
Explanation
Since there is already an RFID system in place in the warehouse, you should do periodic checks for the introduction of new interfering devices. The warehouse might new devices in future that would interfere with an RFID system. So you need to keep this in mind. As mentioned, there is a full scale back office in the warehouse. There may be cordless phones, microwave ovens and other RF systems present in the office. You should be aware of the RF interference they might cause with the new RFID system. You should also consider the locations of interference sources which are not active. There might be some other interference sources that can hinder the performance of the RFID system. Site analysis never records the non-active interference sources.
Reference: RFID Sourcebook

QUESTION 70
You are an RFID engineer at Certkiller .com. You are asked to install a new RFID system at the local kitchen appliances store. During site analysis, you find out that there are lots of steel cabinets on the site which are used to store certain types of metals and liquids. These cabinets are located very near to the proposed area for the placement of RFID system. Which two statements are correct for this scenario? (Choose two.)

A. Steel cabinets will reflect the RF waves.
B. Steel cabinets will not affect the RFID system.
C. Steel cabinets will increase the power of interrogator antennas.
D. Steel cabinets will cause obstruction and interference for the RF waves.

Correct Answer: AD
Section: (none)
Explanation

Explanation/Reference:
Explanation
The steel cabinets on the site are made of metal that can reflect the RF waves. The RF waves specially the UHF waves can be reflected by these steel cabinets. The RFID system might not perform well if you plan to use UHF or microwave frequency because steel cabinets will cause obstruction and interference for the RF waves.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 71
Which tool should you use during the site analysis?

A. RFID edge ware
B. Spectrum analyzer
C. RFID event manager
D. RFID reader emulator

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option B is the best choice. Spectrum analyzer measures spectrums for RFID tags and other RF interference.
Reference: RFID sourcebook

QUESTION 72
What should you refer to determine the length?

A. The elevations
B. The scale
C. The legend
D. Wiring length formula

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation
To determine the length, you should use a scale. Scale is a used to measure the length.
Reference: RFID Sourcebook

QUESTION 73
What does the wireless mesh do?

A. It minimizes tag collision.
B. It amplifies the power of interrogators.
C. It allows interrogators to work in multi-reader mode.
D. It increased the efficiency of the RFID system.

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Wireless mesh improves the efficiency of the RFID system by providing redundant paths for signal transmission.
Reference: www.wirelessmeshrfid.com

QUESTION 74
Which two types of interrogator could be used in the manufacturing facility based on the regulation followed in Europe? (Choose two.)

A. Interrogators emitting 2 Watts of Effective Radiated Power
B. Interrogators emitting 2 Watts of Effective Isotopic Radiated Power
C. Interrogator emitting half a watt of Effective Isotropic Radiated Power
D. Interrogators emitting half a watt of effective Radiated Power

Correct Answer: AD
Section: (none)
Explanation

Explanation/Reference:
Explanation
Following the regulations in Europe, you must use two types of interrogators only. One is an interrogator emitting 2 Watts of Effective Radiated Power (ERP) and the other emitting half a watt of ERP. ERP is a measurement of the RFID reader antennas output used in Europe and elsewhere. ERP is expressed in Watts and is not similar to Effective Isotopic Radiated Power (EIRP). EIRP is used in U.S and elsewhere. It is also expressed in Watts.
Reference: http://www.greenwayforms.com/rfidterms.html

QUESTION 75
Which item present in the retail shop will NOT cause electromagnetic interference?

A. Customer cell phones
B. Metal shelves for displaying items
C. Robotic arms used to move items in the stock room
D. Wireless computers present in the shop

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Metal shelves are not good receptors of RF signal.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 76
What are the two primary considerations while deploying serial interrogators? (Choose two.)

A. Cable length
B. Maintenance cost
C. High dependency on communication channels
D. Unreliable communication link

Correct Answer: AB
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Deployment of serial interrogator depends on two main considerations 1st is the length of cable and 2nd is maintenance costs.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 77
For which two purposes should you use the spectrum analyzer? (Choose two.)

A. Defining the interrogation zone area
B. Determining the various frequencies present in the facility
C. Measuring the interrogator antenna power
D. Measuring the field strength at a particular frequency

Correct Answer: BD
Section: (none)

Explanation

Explanation/Reference:
Explanation:
Spectrum analyzer is used to identify presence of various frequencies in the facility and field strength of the frequency to determine level of noise or interference.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 78
Which two effects may occur due to the presence of metals in the warehouse? (Choose two.)

A. Overloading of interrogators
B. Backscattering of RF energy
C. Absorption of RF energy
D. Signal attenuation

Correct Answer: AB
Section: (none)
Explanation

Explanation/Reference:
Explanation
When there are metals near an RFID system site, overloading of interrogators and backscattering of RF energy occurs. The metals can backscatter the RF energy by collecting inbound signal and changing the signal and reflecting it back to where it came from.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 79
What modification should be done in the RFID system blueprint to fulfill the performance requirements of the RFID system?

A. Design a wired mesh diagram in the blueprint.
B. Modify the blueprint by showing increased interrogator antenna power.
C. Design a wireless mesh diagram in the blueprint.
D. Modify the blueprint showing longer cables.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation
To get full performance from an RFID system, you should include a wireless mesh diagram in the original blueprint. The wireless mesh diagram show the RF waves traveling in airspace. This diagram will allow you exactly pinpoint the locations ideal for interrogators and the whole RFID system.
Reference: RFID Sourcebook

QUESTION 80
Which two purposes will be served by performing a site analysis? (Choose two.)

A. Increased the read rates of the interrogators
B. Provides information on the optimum site locations
C. Decrease the interference from the other RF source

D. Provides information on deciding the frequency to be used for the system

Correct Answer: BD
Section: (none)
Explanation

Explanation/Reference:
Explanation
Site analysis is important. You get to know the optimum site location for the RFID system, environmental factors and it also helps you to decide the frequency to be used for the system. For example, if you are doing a site analysis in a warehouse, you will get to know the perfect location for your RFID system, the frequency for the system and so on.
Reference: RFID Sourcebook

QUESTION 81
You have implemented an RFID system in a local warehouse. While testing the system, you find out that the tags on the cartons are not performing well. Interrogators miss most of the tags. You start troubleshooting the problem. While indentifying the problem, you find you that the tags are getting static charge and that is the prime reason for their malfunction. What should you do to resolve this problem?

A. Use active tags.
B. Use high-power antennas.
C. Ensure proper grounding of the conveyor system.
D. Use antenna systems with metal rollers.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation
To ensure that the tags don't get a static charge, you should ground the conveyor system properly. The tags are getting static charge from the conveyer system. When you ground the conveyer system, the static charge will disburse and tags will not get it from the conveyer system.
Reference: RFID Sourcebook

QUESTION 82
As an RFID engineer what should be your primary focus while performing the site analysis? (Choose two.)

A. The International Standards Organization (ISO) standards to which the RFID system will conform.
B. The strength of the electromagnetic waves already present in the proposed interrogation zone.
C. The frequency of the electromagnetic waves already present in the proposed interrogation zone.
D. The exit and entry points in the proposed interrogation zone.

Correct Answer: BC
Section: (none)
Explanation

Explanation/Reference:
Explanation

While performing site analysis, your prime focus should be to check the strength of electromagnetic waves already present in the proposed interrogation zone because the present of Electromagnetic waves can cause interference with the RFID system frequency. You should also check the frequency of the electromagnetic waves already present in the proposed interrogation zone.
Reference: RFID Sourcebook

QUESTION 83
What is a prerequisite for creating a blueprint for the RFID system?

A. The RFID system implementation steps should have been determined.
B. The RFID system infrastructure should be ready.
C. The RFID system project implementation phase should have been started.
D. The RFID system milestones and key metrics should have been identified.

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation
The main prerequisite for creating a blueprint for RFID system is to identify the RFID system milestone and key metrics. The milestone will be dependent on the nature of the business an RFID system is going to compliment to.
Reference: RFID Sourcebook

QUESTION 84
You are an RFID Engineer. After doing site analysis, you need to implement an RFID system that sends data to a host computer. Which type of interrogator should you use? (INCOMPLETE)

A. Serial
B. Network
C. Interactive
D. Autonomous

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation
You need a network interrogator who will send the data to a host computer. You need a network connection between the interrogator and the host computer. A network connection is made through a network card called Ethernet card or interface. The reader and the host computer should be connected to a network through network devices like Ethernet cards and they should use TCP/IP protocols to establish communication and transfer data.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 85
What is measured using a spectrum analyzer before deploying an RFID system at a site?

A. Antenna power
B. RFID system read range
C. Coupling system used for communication

D. Electromagnetic energy level in a particular frequency band

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option D is best choice as spectrum analyzer is used to identify noise and measure level of interference in a particular frequency band.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 86
What could be the reason for energy loss in a very cold /freezing environment?

A. Presence of ice in the freezer rooms
B. Condensation on the RFID tags
C. Low temperatures inside the freezer rooms
D. Crystallization in the freezer rooms

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Crystallization causes loss of energy in RFID systems in a freezing environment.
Reference: RFID sourcebook

QUESTION 87
What will the blueprint enable you to do?

A. Perform a site analysis.
B. Create a scalable solution.
C. Select the appropriate RFID hardware.
D. Conform to Federal Communications Commission (FCC) standards.

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation
The blueprint enables you to perform site analysis. The site diagram is a blueprint that enable you to perform site analysis.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 88
What two analyzers should you use?

A. Network analyzer
B. Spectrum analyzer
C. Power analyzer
D. RF analyzer

Correct Answer: BD

Section: (none)
Explanation

Explanation/Reference:
Explanation:
Spectrum analyzer is used to measure noise and interference levels. RF analyzer is used to measure frequency /signal strength.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 89
What are typical implementation tasks to be performed while creating the RFID blueprint? (Choose two.)

A. Pilot testing
B. Supply chain integration
C. Site survey
D. Identification of data collection points

Correct Answer: CD
Section: (none)
Explanation

Explanation/Reference:
Explanation
To create an RFID blueprint, you should perform a site survey and identify data collection points. The site survey enables you to identify the potential site and the problems it might pose to an RFID system. The identification of data collection points will enable you to implement the readers and tags accurately.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 90
Which factor will NOT affect the design of the RFID system blueprint?

A. The investment plan of the company
B. The type of items to be tagged
C. The business requirements of the company
D. The competence of human resources available to the company

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation
The competence of human resources available to the company has nothing to do with the design of the RFID system blueprint. There is no need for human resources at this stage. RFID system blueprint is related to the design and implementation of an RFID system.
Reference: RFID Sourcebook

QUESTION 91
What should you do to overcome a problem with very cold /freezing environments with minimum effort?

A. Cover the wall with an insulated material.
B. Create a wireless mesh network around the wall.
C. Changes the location of implementing RFID.

D. Consult the building management, and remove the wall.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation
To overcome the problem with cold or freezing environments, you should create a wireless mesh network around the wall. This mesh network will enhance the performance of an RFID system. A wireless mesh network is a communications network that is made up of radio nodes which allows two pathways of communication to each node. The area covered by radio nodes working as a single network makes a mesh cloud.
Reference: http://en.wikipedia.org/wiki/Wireless_mesh_network

QUESTION 92
Which two effects will this cold /freezing environmental condition have on the RFID system you will deploy? (Choose two.)

A. Decrease in signal strength.
B. Electromagnetic interfere.
C. Reflection of RF waves.
D. Invalid reads and read failures.

Correct Answer: AD
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Environment conditions could lead to reduction in signal strength and read failures.
Reference: RFID Sourcebook

QUESTION 93
Which two statements are true with respect to performing a site analysis before implementing an RFID based tracking system? (Choose two.)

A. Site analysis assists in designing a scalable solution.
B. Site analysis requires the usage of a spectrum analyzer to detect RF interference.
C. Site analysis assists in conforming to the Federal Communications Commission (FCC) standards and business maps.
D. Site analysis in gathering information on the presence of strong electromagnetic energy that might interfere with the RFID system.

Correct Answer: BD
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option B and D are correct choices. Spectrum analyzer is used to measure noise and interfering signals and since interference can come from various sources gathering information on presence of any interference is crucial for the implementation of an RFID system.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 94

Which advantage will a wireless mesh network NOT provide to the company?

A. Extending the reach of the RFID system
B. Transmission of signals at a high power
C. Enabling deployment with less time and effort
D. Ensuring the reliability of the RFID system

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Use of wireless mesh network improves network reachability and reliability of an RFID system but it has no impact on signal strength as that is determined by number of factors - like operating frequency, environment conditions, etc.
Reference: RFID sourcebook

QUESTION 95
What will the presence of robots on the RFID system lead to?

A. Tag collisions
B. Interrogator collisions
C. Electromagnetic interference
D. Signal attenuation

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Electromagnetic interference is caused when robots can produce radio waves that interfere with RFID tags.
Reference: www.rossinc.com/aview.aspx?id=13267

QUESTION 96
The power delivered to an antenna, which has a gain of 13 dBi, is 0.1 watt. What is the effective isotropic radiated power (EIRP)?

A. 1 Watt
B. 2 Watts
C. 13 Watts
D. 33 Watts

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation
The EIRP of power delivered to antenna has 2 Watts. EIRP is the amount of power that an isotropic antenna would need to emit to produce the peak power density observed in the direction of maximum antenna gain. An isotropic antenna would evenly distributes power in all directions.
Reference: http://en.wikipedia.org/wiki/Equivalent_isotropically_radiated_power

QUESTION 97
You are hired as an RFID consultant in a warehouse that is using RFID-based item tracking system. The RFID system operates in the ultra high frequency (UHF) range. Each item is tagged and packed in cartons. You discover a low tag yield problem. On close analysis, you find that the cartons are damp. You are required to resolve the low tag yield problem.
What is the cause of low tag yield in the scenario?

A. RF energy increase
B. Tag collision
C. RF signal absorption
D. RF signal reflection

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Dampness reduces the absorption of RF signal thus leading to low tag read.
Reference: RFID sourcebook

QUESTION 98
Which mechanism enables a tag's circuit and an interrogator to communicate with each other to transmit power and information?

A. Encoding
B. Coupling
C. Operating frequency
D. Sequential (SEQ)

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Coupling is a method of information exchange in an RFID system. The transponder and antenna both are coupled.
Reference: RFID sourcebook

QUESTION 99
Which item will ensure high antenna field performance in the ultra high frequency (UHF) range?

A. Shampoo
B. Water
C. Motor oil
D. Wet wood

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

Explanation:
Motor oil in bottles depended on tag location is a lubricant. So in ultra-high frequency (UHF) range it gives good read capability.
Reference: www3.interscience.wiley.com/cgi-bin/abstract/112162710/ABSTRACT

QUESTION 100
You an RFID engineer working for NuTex Corporation. You have recently implemented an RFID-based item tracking system in the company facility. You have calculated the antenna gain as 3 dBd.
What should be the calculated antenna gain in dBi?

A. 2.42
B. 4.24
C. 5.14
D. 6

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option C is correct. An antenna with the effective radiated power of twice the input power would therefore have a gain of 10*log (2/1) = 3dBD.
Reference: www.informit.com/articles/article.aspx?p=485644&seqNum=6

QUESTION 101
What should you do to overcome a problem with very cold /freezing environments with minimum effort?

A. Cover the wall with an insulated material.
B. Create a wireless mesh network around the wall.
C. Changes the location of implementing RFID.
D. Consult the building management, and remove the wall.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation
To overcome the problem with cold or freezing environments, you should create a wireless mesh network around the wall. This mesh network will enhance the performance of an RFID system. A wireless mesh network is a communications network that is made up of radio nodes which allows two pathways of communication to each node. The area covered by radio nodes working as a single network makes a mesh cloud.
Reference: http://en.wikipedia.org/wiki/Wireless_mesh_network

QUESTION 102
Which two statements are true with respect to performing a site analysis before implementing an RFID based tracking system? (Choose two.)

A. Site analysis assists in designing a scalable solution.
B. Site analysis requires the usage of a spectrum analyzer to detect RF interference.
C. Site analysis assists in conforming to the Federal Communications Commission (FCC) standards and business maps.

D. Site analysis in gathering information on the presence of strong electromagnetic energy that might interfere with the RFID system.

Correct Answer: BD
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option B and D are correct choices. Spectrum analyzer is used to measure noise and interfering signals and since interference can come from various sources gathering information on presence of any interference is crucial for the implementation of an RFID system.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 103
An interrogator antenna's specifications manual lists the power output as 2 W. What should be the final power output if the interrogator antenna is attached to a cable, which introduces an attenuation of 3 dB?

A. 0.25 W
B. 0.5W
C. 1W
D. 2W

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation
The final power output if the interrogator antenna is attached to a cable introducing an attenuation of 3dB should be 1Watt.
Reference: RFID Sourcebook

QUESTION 104
What two factors should you consider when you plan to implement a smart label-based RFID tracking system?

A. Printer/encoder compatibility
B. Adhesives used
C. Interrogator compatibility
D. Read range required

Correct Answer: AB
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Printer /encoder compatibility and use of adhesives is crucial. Type of adhesive can have an impact on transponder performance.
Reference: www.pmmi.org/pmmistandards/pdf/AIM_RFIDStandard.pdf

Exam C

QUESTION 1
You implement an ultra high frequency (UHF)-based item tracking RFID system in a warehouse. Items will be tagged with passive tags. You install interrogators on all the dock doors. The RFID system is utilizing antennas with effective radiated power (ERP) twice the power input. What should be the calculated antenna gain?

A. 3 dBd
B. 6 dBd
C. 9 dBd
D. 12 dBd

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation
The calculated antenna gain would be 3dBD. To calculate the antenna gain you need to determine the capture area of an antenna by multiplying the antenna's radiator length by 1/4 lambdas.
Reference: http://www.sommerantennas.com/gain.html

QUESTION 2
The RF properties, such RF-opaque, RF-transparent, and RF-absorbent, of a material depend on which primary factor?

A. RFID system frequency
B. Interrogator power
C. Packaging material used
D. Differential time of arrival

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Frequency determines the RF properties for example a material that is highly RF-opaque or RF-absorbent at one frequency can be RF-lucent or RF-transparent at another frequency.
Reference: http://understandingrfid.com/engineers/RFFundamentals/rfbehavior.htm

QUESTION 3
You plan to implement an RFID-based vehicle inventory management system for an automobile company. The system should automatically provide the location information for tagged objects.
What should you do?

A. Implement a RTLS system.
B. Use tags with high-power antennas.
C. Implement a low frequency (LF)-based RFID system.
D. Use high frequency (HF) interrogators with inductive coupling.

Correct Answer: A

Section: (none)
Explanation

Explanation/Reference:
Explanation:
As the name suggests RTLS stands for Real-Time Location System - it takes identification to the next level by not only identifying an object but also pinpointing its location in real time.
Reference: www.pincsolutions.com/faq.php#6

QUESTION 4
You pan to implement an RFID system in a lumbering company in Canada. The dry wood items will be tagged.
Which frequency systems may have trouble reading the tagged items? (Choose all that apply.)

A. Low frequency (LF)
B. High frequency (HF)
C. Ultra high frequency (UHF)
D. Microwave

Correct Answer: CD
Section: (none)
Explanation

Explanation/Reference:
Explanation:
At UHF and Microwave frequencies RF property is RF-opaque.
Reference: www.informit.com/articles/article.aspx?p=413662

QUESTION 5
You implement a conveyor-based RFID tracking system in a manufacturing facility. The RFID engineer has suggested the deployment of tunnels over the antennas and interrogators on the conveyor belts.
What are the main advantages of deploying tunnels? (Choose two.)

A. Tunnels provide RF shielding.
B. Tunnels increase the tag read rate.
C. Tunnels assist in implementing anti-collision.
D. Tunnels nullify the effect of RF-absorbent material.

Correct Answer: AB
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Tunnels provide RF shielding and they increase the tag read rate as they have multiple antennas installed.
Reference: www.ventureresearch.com/PDF/ConveyorTunnels.pdf

QUESTION 6
An antenna with 13-dBi gain is attached to a cable that introduces a loss of 3 dBm. The power delivered to antenna is 100 mW.
What should be the calculated effective isotropic radiated power (EIRP)?

A. 10 mW

B. 100 mW
C. 200 mW
D. 1000mW

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Effective isotropically radiated power is the arithmetic product of the power supplied to an antenna and its gain relative to an isotropic source.
EIRP (dBm) = Power of transmitter (dBm) - loss in transmission line (dB) + antenna gain in dBi
DBm = 10 *log (power out/1mW)
So 100 mW equals to 20 dBm
EIRP = 20 + 13 = 33 dBm = 2 watts
Reference: http://www.informit.com/articles/article.aspx?p=485644&seqNum=6

QUESTION 7
Which frequency systems are most appropriate for tracking mineral water bottles? (Choose two.)

A. Low frequency (LF)
B. High frequency (HF)
C. Ultra high frequency (UHF)
D. Microwave

Correct Answer: AB
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Water bottles can be tracked best at LF and HF frequencies. LF and HF are ideal for scanning objects with high water content.
Reference:http://rfid.taglogic.com/pdf/rfid.pps

QUESTION 8
An interrogator specification manual lists the power output as 1 W. What should be the final power output if the interrogator is attached to a cable, which introduces an attenuation of 3 dB and an antenna that introduces a gain of 3 dB?

A. 10 dBm
B. 15 dBm
C. 30 dBm
D. 60 dBm

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation
The final power output will be 30dBm. When the interrogator is attached to a cable introducing an attenuation of 3 dB and an antenna introducing a gain of 3dB, you get

more decibels. So the final power output is 30 dBm.
Reference: http://www.tech-faq.com/dbm.shtml

QUESTION 9
You plan to implement an RFID-based shelf application in a pharmaceutical store.
Which is the most appropriate frequency system for implementing this application?

A. Low frequency (LF)
B. High frequency (HF)

C. Ultra high frequency (UHF)
D. Microwave

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option B is best choice as HF frequency tags work best on objects made of metal and can work around goods with high water contents.
Reference: http://rfid.taglogic.com/pdf/rfid.pps

QUESTION 10
You are an RFID engineer. You plan to implement an RFID-based tracking system in a paper manufacturing company. The tagged paper products will be packed in wooden boxes.
What should be your two main concerns while implementing this system? (Choose two.)

A. Tagged product size
B. RFID system frequency
C. Tagged product material
D. Tagged product packaging material

Correct Answer: BD
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option B and D are best choice. The first concern is which frequency to use to tag items and secondly the packaging material used for the product as it affects the readability performance of tags.
Reference: RFID Sourcebook

QUESTION 11
You implement an RFID-based tracking system in a shampoo manufacturing company. The system will use an ultra high frequency (UHF) frequency system.
What will be the effect of tagged material on the RF energy?

A. RF energy will be absorbed.
B. RF energy will be reflected.
C. RF energy will be refracted.
D. RF energy will be affected.

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option A is correct choice. RF energy will be absorbed by UHF frequency system, as it does not work well with water.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 12
You are working as an RFID engineer in a company branch office in the US

A. The
company main office is located in Europe. An RFID-based employee access RFID system has been successfully implemented at the main office.
You are instructed to implement a similar employee access system at the branch office. The effective radiated power (ERP) value for the main office RFID system is 2 Watts.
What should be the equivalent effective isotropic radiated power (EIRP) value?
B. 2 Watts
C. 3.28 Watts
D. 4.32 Watts
E. 18 Watts

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation
The effective isotropic radiated power (EIRP) value would be 3.28 Watts. You can calculate the ERP and EIRP values using the calculator in the reference URL.
Reference: http://www.csgnetwork.com/antennaecalc.html

QUESTION 13
In which communication mode do the interrogator and the tag take turns transmitting?

A. Full duplex (FDX)
B. Half-duplex (HDX)
C. Capacitive coupling
D. Backscatter coupling

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:

Half duplex allows two-way communication but by turn.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 14
An interrogator antenna's specifications manual lists the power output as 2 W. What should be the final power output if the interrogator antenna is attached to a cable, which introduces an attenuation of 3 dB?

A. 0.25 W
B. 0.5W
C. 1W
D. 2W

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation
The final power output if the interrogator antenna is attached to a cable introducing an attenuation of 3dB should be 1Watt.
Reference: RFID Sourcebook

QUESTION 15
Which algorithm is used to determine the location information for tag objects?

A. RTLS
B. DTOA
C. CDMA
D. CRC

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option B is correct choice. Differential Time of Arrival (DTOA) algorithms determine the location of the tag.
Reference: www.cdc.gov/niosh/npptl/usernotices/pdfs/Part7FD.pdf

QUESTION 16
Which topology uses the different time of arrival (DTOA) algorithms?

A. RTLS
B. ESD
C. Anti-collision
D. Tag-reader coupling

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
RTLS uses Differential Time of Arrival (DTOA) algorithm to determine location of tag.

Reference:www.autoid.org/2005docs/WG5_200501_019_AdHocRpt.doc

QUESTION 17
In which two frequency ranges do metals behave as an RF-lucent material?

A. Low frequency (LF)
B. Ultra high frequency (UHF)
C. Microwave
D. High frequency (HF)

Correct Answer: AD
Section: (none)
Explanation

Explanation/Reference:
Explanation:
In LF and HF based systems it blocks, reflects, and scatters RF waves.
Reference: http://wireless.itworld.com/4985/051004_book_rfidsourcebook/page_1.html

QUESTION 18
You plan to implement an RFID system in which the data communication from tags to interrogators takes place in pulses. Which communication method will you use?

A. Uplink
B. Sequential (SEQ)
C. Half-duplex (HDX)
D. Multiplexing

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Sequential (SEQ) is a sequential method in which you configure the reader to use the antennas for reads in some sequential order.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 19
Which frequency system is most appropriate for implementing an RFID system to track items with high water content?

A. Lower frequency (LF)
B. Higher frequency (HF)
C. Microwave frequency
D. Very low frequency (VLF)

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option A is best choice. LF based systems are best appropriate for high water content items.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 20
Which frequency band is the most appropriate for implementing a smart card-based RFID system in a facility?

A. 134KHz
B. 13.56MHz
C. 860 MHz
D. 2.4 GHz

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option B is best choice. HF systems usually operate at 13.56 MHz and they are well suited for smart card based RFID system
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 21
You plan to implement an RFID-based identification system for monitoring characteristics and tracking of animals. According to the International Standard Organization (ISO) standards, which is the most appropriate frequency for this system?

A. Low frequency (LF)
B. High frequency (HF)
C. Ultra high frequency (UHF)
D. Microwave

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
As per ISO standards LF is the most appropriate frequency for tracking and monitoring of animal characteristics.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 22
You have been hired as an RFID consultant in a metal tools company. You have suggested the use of thin foam backing on the metal tool items upon which tag will be placed. Which advantage will the use of thin foam backing provide?

A. Read rate increase
B. Energy received increase
C. High antenna power protection
D. RF shielding

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

Explanation:
A thin foam backing on metal tools will provide space between metal and packaging and thus will usually create enough space between the tag and the reflected signal to greatly improve read rates.
Reference: www.oreilly.com/catalog/rfid/chapter/ch01.pdf

QUESTION 23
What should you implement? (INCOMPLETE)

A. Mobile forklift implement
B. Mobile forklift interrogators
C. Sensors
D. Metal shielding

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 24
What statement applies for RTLS?

A. RLTS to be used without RFID.
B. RTLS cannot be used without RFID.
C. RTLS is a form of an RFID technology.
D. RTLS cannot be used for long read ranges.

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
RTLS systems are independent of RFID systems as in a typical RFID system the tags are read when they pass the portal as part of a structured process, whereas RTLS tags are read automatically and regularly, independent of the process that moves the tags.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 25
This condition would result into? (INCOMPLETE)

A. RFID tag yield is zero.
B. Printer cannot communicate with the network.
C. Printer cannot communicate with the print server.
D. Printer cannot communicate with the interrogators.

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 26

What are the two commonly faced problems while creating smart labels using a printer/encoder for an RFID- based item-tracking solutions?

A. Electrostatic discharge (ESD)
B. Tag collision
C. Inlay placement
D. High power of interrogators

Correct Answer: AC
Section: (none)
Explanation

Explanation/Reference:
Explanation:
ESD and inlay placement are two common problems while creating smart labels using RFID based printers /encoders. Placement of the inlays is critical and is defined by the specification set by the printer manufacture. Deviation in the placement of the inlay can cause a thermal printer to "miss" the inlay during encoding and mark a fully functional label as void or failed.
Reference: http://emergingwirelesstechnology.com/radio_closer_look_gen/

QUESTION 27
Which RFID component provides ease of use with an automated process?

A. Interrogators
B. Printers
C. Sensors
D. Applicators

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation
RFID printers provide ease of use with an automated process. The RFID printer prints smart labels that are read by humans and RFID readers. The smart labels has tags in it so it is easy to track them. The process get automated instantly.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 28
How to avoid static electricity generation while printing of labels? (Choose two.)

A. Print in a low humidity environment.
B. Select the printer/encoder that has a metal contact on the side of the ribbon.
C. Use antistatic brushes.
D. Test the printer/encoder before implementation for static electricity.

Correct Answer: CD
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Use of anti-static brushes and testing of printer /encoder for static electricity could help to some extent to handle this problem.

Reference:
www.zebra.com/id/zebra/na/en/documentlibrary/whitepapers/rfid_smart_label.DownloadFile.File.tmp/WP13865

QUESTION 29
You are assigned a project to implement an RFID based tracking of baggage at a local airport. You need to develop a system to place tags in labels which can be easily used to track the baggage. What tool to should be used?

A. printer
B. interrogator
C. middleware
D. Enterprise back end

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation
You should use RFID printer to print smart labels. These labels will be attached to the baggage. To find the lost baggage, the RFID system will locate it using the tag implanted in the smart label. The label can also be read by human readers so printing a smart label is the best option.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 30
Which kind of environment condition could lead to generation of static electricity in printer/encoders?

A. High temperature
B. High humidity
C. Low temperature
D. Low humidity

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:
When humidity is low, higher static charges are generated. Humidity levels of over 50% limit static build-up since surface moisture makes material more conductive.
Reference: www.rfidproductnews.com/whitepapers/files/MasteringLabelConv.doc

QUESTION 31
What should be the two main considerations while deciding which RFID printer/encoder is best suited for your environment? (Choose two.)

A. Tag-encoder compatibility
B. Firmware used in the printer/encoder
C. Read range
D. Environment conditions

Correct Answer: AB
Section: (none)

Explanation

Explanation/Reference:
Explanation:
Matching the tag type and media with both printer/encoder and application is critical for RFID system.
Reference:
www.zebra.com/id/zebra/na/en/documentlibrary/pressreleases/2005/toprfid_label_tips.File.tmp/TopRFID_label_

QUESTION 32
Static electricity generation in printers/encoders could lead to chip damages. What are the two common causes of that? (Choose two.)

A. Unstackinh the facestock
B. Unwinding the ribbon
C. Mounting the facestock
D. Die cutting in high humidity environment

Correct Answer: AB
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Releasing liner webs during delaminating potentially can cause RFID chip damage. Unwinding the ribbon especially in low humidity environments, a static charge can build up on the label from either source that can discharge into chip and damage or destroy it.
Reference:www.pmmi.org/pmmistandards/pdf/AIM_RFIDStandard.pdf

QUESTION 33
Which two statements are true when you compare an automated RFID encoding, printing, and labeling system vs. a standard RFID label printer?

A. It provides higher throughput.
B. It can encode multiple tags at a time.
C. It requires the use of slap-and-ship tags.
D. It can verify and divert unreadable labels.

Correct Answer: AD
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Due to automated process throughput is higher and verification and diverting of unreadable labels is possible.
Reference: RFID sourcebook

QUESTION 34
What two factors should you consider when you plan to implement a smart label-based RFID tracking system?

A. Printer/encoder compatibility
B. Adhesives used
C. Interrogator compatibility

D. Read range required

Correct Answer: AB
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Printer /encoder compatibility and use of adhesives is crucial. Type of adhesive can have an impact on transponder performance.
Reference: www.pmmi.org/pmmistandards/pdf/AIM_RFIDStandard.pdf

QUESTION 35
You plan to implement an RFID solution that uses RFID printers with conductive inks. Which component can you print using conductive inks?

A. inlet
B. antenna
C. die
D. substrate

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Conductive ink is an ink that conducts electricity, allowing a circuit to be drawn or printed on a variety of materials including paper. It usually contains powdered silver and carbon. The antenna coil pattern is formed using a conductive ink.
Reference:
www.wipo.int/pctdb/en/wo.jsp?wo=2006137666&IA=WO2006137666&DISPLAY=DESC

QUESTION 36
Contact labeling uses what type of RFID label applicator?

A. Wipe-on
B. Tamp-blow
C. Air-blow
D. Contagious

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Wipe on RFID label applicator is used with contact labeling.
Reference:
http://books.google.co.in/books?id=Myz4kBTPTyQC&pg=PA72&lpg=PA72&dq=contact+labelling+uses+wipe

QUESTION 37
Which two statements are applicable for an RFID transponder inlay? (Choose two.)

A. Inlays are only battery operated.

B. Inlays are pressure sensitive.
C. Inlays consist of an RFID silicon chip and antenna.
D. Inlays are always pre-made.

Correct Answer: BC
Section: (none)
Explanation

Explanation/Reference:
Explanation:
An RFID inlay, also known as a RFID transponder or RFID tag, is comprised of a pressure sensitive label, tags and packaging that contain RFID inlays and is comprised of an RFID chip that is attached to an antenna.
Reference: www.markandy.com/rfid/rfidfaq.cfm

QUESTION 38
An RFID based material tracking system is implemented in a manufacturing unit. You had planned to setup a printer/encoder on the system. Which two statements applies regarding positioning of the printer/encoder? (Choose two.)

A. Nearby RFID devices may cause interface.
B. Printer/encoders do not face interference problems.
C. Printer/encoders should be positioned at an appropriate distance from other RF devices.
D. Anti-collision protocols should be used while installing the printer/encoder.

Correct Answer: AC
Section: (none)
Explanation

Explanation/Reference:
Explanation:
There has to be sufficient physical distance between other RFID components like interrogators, antennas etc and printer/encoder. As they can cause interference
Reference: www.pmmi.org/pmmistandards/pdf/AIM_RFIDStandard.pdf

QUESTION 39
While implementing a smart label printer/encoder in an RFID system, which two main practices should be followed? (Choose two.)

A. Manually check each label before it is used in the RFID system.
B. Ensure that un-encoded labels are not used in the RFID system.
C. Ensure that the system does not print a label if an error is encountered.
D. Ensure that the system has a procedure for designing and segregating un-encoded labels.

Correct Answer: BD
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Process need to be in place to prevent damaged and smart labels from being applied to items. Unusable labels should be clearly marked as VOID. Another option is to stop printing when a uuencoded label is produced to prevent further printing till the error is resolved.

Reference:
www.zebra.com/id/zebra/na/en/documentlibrary/whitepapers/rfid_smart_label.DownloadFile.File.tmp/WP13865

QUESTION 40
Class 1 tags are deployed for an RFID-based tracking solution for a manufacturing company. You need to deploy printer/encoders that would provide support for future RFID standards and enhancements.
Which type of printer/encoders should you choose keeping in mind future enhancements?

A. Single protocol
B. Multi-protocol
C. Dual-protocol
D. Gen 2 protocol

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Option B is correct choice. Multi-protocol printers/encoder should be chosen keeping future enhancements in mind. A multiprotocol printer/encoder - again, optimally with software-defined radio architecture - provides protection for RFID investments and a cost-effective migration path to meet future requirements.
Reference:
http://rfdesign.com/next_generation_wireless/transmit_receive_technologies/rfid-multiprotocol-sdr-0107/

QUESTION 41
You have been hired as an RFID consultant in a metal tools company. You have suggested the use of thin foam backing on the metal tool items upon which tag will be placed. Which advantage will the use of thin foam backing provide?

A. Read rate increase
B. Energy received increase
C. High antenna power protection
D. RF shielding

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
A thin foam backing on metal tools will provide space between metal and packaging and thus will usually create enough space between the tag and the reflected signal to greatly improve read rates.
Reference: www.oreilly.com/catalog/rfid/chapter/ch01.pdf

QUESTION 42
You are assigned a project to implement an RFID based tracking of baggage at a local airport. You need to develop a system to place tags in labels which can be easily used to track the baggage. What tool to should be used?

A. printer
B. interrogator

C. middleware
D. Enterprise back end

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation
You should use RFID printer to print smart labels. These labels will be attached to the baggage. To find the lost baggage, the RFID system will locate it using the tag implanted in the smart label. The label can also be read by human readers so printing a smart label is the best option.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress

QUESTION 43
How many spectrum channels are available for interrogators operating in dense-reader mode as per the Federal Communication Commission (FCC) Part 15.245 (US)?

A. 9
B. 1O
C. 20
D. 50

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:
50 spectrum channels are available for interrogators operating in dense-reader mode.
Reference:
https://ipo.llnl.gov/technology/profile/sensor/MicropowerImpulseRadar/FCC_rules.pdf

QUESTION 44
The structure and elements of machine-readable markup files provides information regarding using these files either in automatic translations or validation of software is addressed by which standard?

A. ISO/IEC 18000-6
B. ISO/IEC 18000-7
C. EPCglobal Tag Data Translation (TDT) 1.0
D. Class 1 Generation 2 UHF Air Interface Protocol Standard Version 1.0.9

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Data Translationstandardsare concerned with a machine-readable version of the EPC Tag Data Standards specification. The machine-readable version can be readily used for validating EPC formats as well as translating between the different levels of representation in a consistent way. This specification describes how to interpret the machine-readable version. It contains details of the structure and elements of the machine-readable markup files and provides guidance on how it might be used in

automatic translation or validation software, whether standalone or embedded in other systems.
Reference: www.epcglobalinc.org/standards/tdt/

QUESTION 45
A manufacturing company uses an RFID-based forklift system to track items moved from the manufacturing unit to the warehouse. You are a newly appointed RFID specialist in the Certkiller Company. You notice that the packaging materials used in pallets tends to absorb moisture. What will be the possible affect of moisture?

A. Low tag read rate
B. RF waves will be reflected
C. Interrogator inability to read the tags inside the package in dense reader mode
D. Interrogator antenna power increase

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Moisture impacts the low tag read rate because liquid substances absorb radio signals.
Reference: CompTIA RFID+ Exam RFO-001 Study guide from syngress