**Question 1:** Users of Database and Access to tables

Answer

1. Employee Users

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table Name | SELECT | INSERT | UPDATE | DELETE | Constraints |
| Customer | **X** | **X** | **X** |  |  |
| CustomerOrder | **X** | **X** | **X** | **X** |  |
| Employee | **X\*** |  |  |  | \*Only themselves |
| OrderDetail | **X** | **X** | **X** | **X** |  |
| Product | **X** |  |  |  |  |

1. Managers

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table Name | SELECT | INSERT | UPDATE | DELETE | Constraints |
| Customer | **X** | **X** | **X** | **X** |  |
| CustomerOrder | **X** | **X** | **X** | **X** |  |
| Employee | **X** | **X** | **X\*** | **X\*** | \*Except Themselves |
| OrderDetail | **X** | **X** | **X** | **X** |  |
| Product | **X** | **X** | **X** | **X** |  |

1. Customers

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table Name | SELECT | INSERT | UPDATE | DELETE | Constraints |
| Customer | **X\*** | **X\*** | **X\*** |  | \*Only Themselves |
| CustomerOrder | **X** | **X** | **X** | **X\*** | \*Only Current Order |
| Employee |  |  |  |  |  |
| OrderDetail | **X** | **X** | **X** | **X\*** | \*Only Themselves |
| Product | **X** |  |  |  |  |

**Question 2:** Threat Analysis for Perfect Pizza

Answer

1. Employee Users

|  |  |
| --- | --- |
| Role | Employee |
| Threat | Description |
| SELECT |  |
| INSERT | Insert incorrect data |
| UPDATE | Update errors in pricing or customer information |
| DELETE | Errors through data loss |

1. Manager

|  |  |
| --- | --- |
| Role | Manager |
| Threat | Description |
| SELECT |  |
| INSERT | Insert incorrect data |
| UPDATE | Update errors in pricing or customer information |
| DELETE | Errors through data loss |

1. Customer

|  |  |
| --- | --- |
| Role | Customer |
| Threat | Description |
| SELECT | Possible employee information seen |
| INSERT | Insert incorrect data |
| UPDATE | Update errors in customer information |
| DELETE | Errors through data loss in their own current order |

**Question 6:** Policies, Procedures, Recovery Plan

Answer: Disaster Recovery Plan for the Bookstore

**1. Objective:**

* Ensure data integrity, availability, and swift recovery following unforeseen events such as severe earthquakes or cyberattacks.

**2. Potential Threats (based on Conger, Steve. "Hands-on Database: An Introduction to Database Design and Development. Second Edition."):**

* Severe earthquakes.
* Data integrity errors.
* Deliberate cyberattacks or accidental data breaches.

**3. Backup Strategy:**

* **a. Regular Backups (based on Conger):** Conduct daily backups of the entire database, storing them in diversified locations both on-site and off-site.
* **b. Cloud Backups:** Utilize a cloud backup solution for added protection against physical threats like earthquakes.

**4. Authentication & Authorization (based on Conger):**

* Only authorize specific personnel to access and restore backups.
* Continuously review and adapt permissions to the evolving needs of the business.

**5. Online Platform Security:**

* Ensure robust security measures for the online catalog to ward off cyber threats.
* Engage with reputable payment processors, compliant with industry security standards.

**6. Physical Infrastructure:**

* Reinforce the bookstore to be more earthquake-resilient, including secure shelving and inventory protections.

**7. Disaster Response Team:**

* Form a team with designated roles for swift action during and after crises.

**8. Training & Awareness (based on Conger):**

* Educate employees on disaster response procedures and the repercussions of data breaches.

**9. Review & Update (based on Conger):**

* Periodically assess and refine the disaster recovery plan for new vulnerabilities.
* Maintain updated security documentation to ensure quicker post-disaster recovery.

**10. External Partnerships:**

* Collaborate with specialized IT consultants or firms for expertise and rapid recovery support post-disaster.

**Citation:**

* Conger, Steve. *Hands-on Database: An Introduction to Database Design and Development. Second Edition.* 2023.