* **Question 1**

10 out of 10 points

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|  | List the two types of databases (5 points), as well as their purposes. (5 points) |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | 1. Online transaction processing (OLTP): Database created for real-time storage and manipulation of data within an organization. It created to be used in an active environment; Optimized to serve thousands of users simultaneously; Stores data resulting from large volumes of short transactions.  2. Online analytical processing or decision support system (OLAP/): Stores large volumes of historical data. It used for report generating and analyzing; Typically retrieves data from an OLTP; Data analyzed in a business environment to meet a specificneed. | | Correct Answer: | Correct  an online transaction processing (OLTP) stores data that results from large volumes of short transactions, usually from a point of sale or data entry application. Transactional database.  an online analytical processing (OLAP), or decision support system (DSS), is a database that stores large volumes of historical data for report generating and analyzing. data warehouse. | |  |  |  |

* **Question 2**

10 out of 10 points

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|  | Of the additional options and features available for Oracle, identify the security-specific applications. **[A]** **[B]** **[C]** **[D]** **[E]** |  |  |  |
| |  |  | | --- | --- | | Specified Answer for: A | CorrectOracle Database Vault | | Specified Answer for: B | CorrectLabel Security | | Specified Answer for: C | CorrectOracle Data Redaction | | Specified Answer for: D | CorrectTransparent Data Encryption | | Specified Answer for: E | CorrectOracle Virtual Private Database |  |  | | --- | | **Correct Answers for: A** |  |  |  |  | | --- | --- | --- | | **Evaluation Method** | **Correct Answer** | **Case Sensitivity** | | Correct*Contains* | Database Vault |  |  |  | | --- | | **Correct Answers for: B** |  |  |  |  | | --- | --- | --- | | **Evaluation Method** | **Correct Answer** | **Case Sensitivity** | | Correct*Contains* | Label Security |  |  |  | | --- | | **Correct Answers for: C** |  |  |  |  | | --- | --- | --- | | **Evaluation Method** | **Correct Answer** | **Case Sensitivity** | | Correct*Contains* | Data Redaction |  |  |  | | --- | | **Correct Answers for: D** |  |  |  |  | | --- | --- | --- | | **Evaluation Method** | **Correct Answer** | **Case Sensitivity** | | Correct*Exact Match* | Transparent Data Encryption |  |  |  | | --- | | **Correct Answers for: E** |  |  |  |  | | --- | --- | --- | | **Evaluation Method** | **Correct Answer** | **Case Sensitivity** | | Correct*Contains* | Virtual Private Database |  | |  |  |  |

* **Question 3**

10 out of 10 points

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|  | List all security practices to follow during installation of Microsoft SQL server 2008. |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | During Installation:  1. Apply policy-based management   * + Manage it centrally   2. Use encryption and auditing services   * + Transparent data encryption (TDE) enables encryption and backups without affecting the user   + Enhanced auditing features allow tracking data access and data modification   3. Apply passwords to services individually and uniquely  4. Choose Windows authentication over Mixed authentication   * + Avoids passwords being sent over the network   5. Strictly enforce a strong password policy  6. Change default usernames whenever possible   * + Change usernames of root passwords | | Correct Answer: | Correct  1. firewall setup  2. encrpytion (TDE)  3. Windows authentication over mixed authentication  4. strong password policy  3-4 answers 10 points  2 answers 7 points  1 answer 4 points  0 answer 0 point | |  |  |  |

* **Question 4**

15 out of 15 points

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|  | Identify (6 points) and define in your own words (9 points, if you copy from the description it won't count) three objectives that are key to achieving effective security architecture |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | The key to achieving effective data security architecture relies in an organiztion's efforts to maintain the confidentiality, integrity and availability of its enviroment.Roughly speaking, the confidentiality property prevents unauthorized persons to access the protected data. The integrity property guarantees that the data cannot be corrupted in an invisible way. The third property, availability ensures timely and reliable access to the database. | | Correct Answer: | Correct  **Confidentiality**: For a system to provide confidentiality, it needs to do two things:  ensure that information maintains its privacy by limiting authorized access to resources; block unauthorized access to resources.  **Integrity**: This refers to the efforts taken through policy, procedure, and design in order to create and maintain reliable, consistent, and complete information and systems.  **Availability**: This refers to the efforts taken through policy, procedures, and design to maintain the accessibility of resources on a network or within a database. These resources include, but are not limited to, data, applications, other databases, computers, servers, applications, files, drives, shares, and network access. | |  |  |  |

* **Question 5**

40 out of 40 points

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|  | Find right matching pairs |  |  |  |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  | | --- | --- | --- | | Question | Correct Match | Selected Match | | A general term for software that uses typical malware intrusion techniques to obtain marketing data or advertise a product or service. | Correct P.  adware | Correct P.  adware | | Someone who breaks into computer networks without authorization and with malicious intent. | Correct S.  black hat | Correct S.  black hat | | A facility that provides the basic necessities for rebuilding a network. A contract that involves a cold site would promise the use of a facility that provides water, power, air conditioning, or heat. | Correct I.  cold site | Correct I.  cold site | | A form of malware intended to spread from one computer to another without detection. | Correct K.  computer virus | Correct K.  computer virus | | The efforts taken through policy, procedure, and design in order to create and maintain the privacy and discretion of information and systems. | Correct R.  confidentiality | Correct R.  confidentiality | | An intrusion where a cracker gains control over the DNS server and changes the domain name’s respective IP address, redirecting requests to sites that the cracker has built and maintains. | Correct C.  DNS poisoning | Correct C.  DNS poisoning | | An individual or groups of individuals who waver between the classification of a hacker and a cracker, and who either act in goodwill or in malice. | Correct B.  grey hat | Correct B.  grey hat | | A process in which Web sites are hacked into and rewritten to react differently to users than how the original Web site designer intended. | Correct G.  hijacking | Correct G.  hijacking | | An abbreviation for the term malicious software. | Correct D.  malware | Correct D.  malware | | The attempt to obtain PII from people through the use of spoofed e-mail addresses and URLs. | Correct H.  phishing | Correct H.  phishing | | A process that involves hackers building Web sites to look identical to other popular sites in hopes of drawing in a user. | Correct Q.  spoofing | Correct Q.  spoofing | | A general term for any software that intentionally monitors and records a user’s computer and/or Internet activities. | Correct F.  spyware | Correct F.  spyware | | Malware that disguises itself and its harmful code and often hides within enticing programs such as software updates, games, and movies. | Correct E.  Trojan (Trojan horse) | Correct E.  Trojan (Trojan horse) | | Self-replicating malware that is able to harness the power of networks and use this power in its attacks against them. | Correct T.  worm | Correct T.  worm | | A field with values that are not chosen as a primary key, but can be used in cases where the primary key is not available. | Correct A.  alternate key | Correct A.  alternate key | | A field with values that meet the requirements for a primary key. | Correct L.  candidate key | Correct L.  candidate key | | A group of two or more fields where their values can be combined to be used as a primary key. | Correct M.  composite key | Correct M.  composite key | | A situation when two transactions cannot proceed because each user has data that the other needs. | Correct N.  deadlock | Correct N.  deadlock | | A field that contains a unique label by which we can identify a record or row in a table. | Correct O.  primary key | Correct O.  primary key | | A set of instructions that is executed by the operating system intended to complete a task. | Correct J.  process | Correct J.  process | | |  |  |  |

* **Question 6**

0 out of 10 points

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|  | What is the extra security tool (5 points) that is used during MySQL installation and explain it's features (at least two)? |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | 1.. password.   * + Left blank by default   + Root passwords allow execution of every command available inMySQL(Should be changed and replaced with strong passwords)   + Never store passwords in plain text format   2. Default root usernames can be easy to find online   * + Change usernames of root passwords to provide additional security   3. Account Access and User Privileges   * + Follow principle of least privileges:To ensure protection of sensitive data   + Do not share root access   + Remove or disable all anonymous accounts on the system   4. Network Connection Administration   * + Database administrators often overlook network connections when creating security plan   + Best practices for protecting network connections: Disable remote access; Do not leave your ports wide open; Use IP addresses to restrict access to the database; Encrypt your connection to the server using SSH or SSL | | Correct Answer: | Correct  mysql\_secure\_installation tools enforces root password and removes guest user account and disable remote access. (at least two features) | |  |  |  |

* **Question 7**

10 out of 10 points

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|  | define role (5 points) and identify the reasons for using roles. (5 points) |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | Roles: Related privileges can be combined to create a role. it used to centrally manage group of objects or users. Roles can be created for users, objects, and applications. Single role can be assigned to many users. Single user can be assigned many roles.  The reason which need to use is the advantages of using roles: Saves time and resources; Provides a central location for administration | | Correct Answer: | Correct  a role is a set of related privileges that are combined to provide a centralized unit from which to manage similar users or objects of a database.  roles can be created for users, objects, and applications alike and they offer many advantages to database administration by saving time and resources, and by providing a centralized administration. | |  |  |  |

* **Question 8**

10 out of 10 points

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|  | Identify two main areas of focus that exist in all DBMSs. **[A]** **[B]** |  |  |  |
| |  |  | | --- | --- | | Specified Answer for: A | CorrectRead consistency | | Specified Answer for: B | CorrectQuery Management |  |  | | --- | | **Correct Answers for: A** |  |  |  |  | | --- | --- | --- | | **Evaluation Method** | **Correct Answer** | **Case Sensitivity** | | Correct*Exact Match* | read consistency |  |  |  | | --- | | **Correct Answers for: B** |  |  |  |  | | --- | --- | --- | | **Evaluation Method** | **Correct Answer** | **Case Sensitivity** | | Correct*Exact Match* | query management |  | |  |  |  |

* **Question 9**

10 out of 10 points

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|  | Explain the difference between authentication and authorization |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | Authentication: Process of confirming the identity of individuals requesting access to a secure environment; Done by verifying the login and credentials match those created within that environment.  Authorization:Process of applying permissions to a user (Ensures users requesting access have permission to do so); Determined prior to a user obtaining authentication credentials; Choosing the most appropriate privileges for each user helps maintain a healthy and secure database.  I think authentication is the process of verifying who you are. Logging on to a PC with a username and password is authentication. Computer need figure out who the user is.  Authorization is the process of verifying that you have access to something. Gaining access to a resource (e.g. directory on a hard disk) because the permissions configured on it allow you access is authorization. It is computer give you some specifics rights to do something. | | Correct Answer: | Correct  authentication is the process of verifying the identity of a user attempting to access a resource, whereas authorization is the process ofverifying the user's permission to access a resource. | |  |  |  |

* **Question 10**

0 out of 10 points

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|  | Identify four database server-enforced password policies.  **[A]** **[B]** **[C]** **[D]** |  |  |  |
| |  |  | | --- | --- | | Specified Answer for: A | IncorrectSmart card uses PIN for authentication | | Specified Answer for: B | IncorrectKerberos uses symmetric-key cryptology | | Specified Answer for: C | IncorrectPublic key infrastructure (PKI) | | Specified Answer for: D | IncorrectDigital certificate |  |  | | --- | | **Correct Answers for: A** |  |  |  |  | | --- | --- | --- | | **Evaluation Method** | **Correct Answer** | **Case Sensitivity** | | Correct*Exact Match* | Complexity |  |  |  | | --- | | **Correct Answers for: B** |  |  |  |  | | --- | --- | --- | | **Evaluation Method** | **Correct Answer** | **Case Sensitivity** | | Correct*Exact Match* | Failed attempts |  |  |  | | --- | | **Correct Answers for: C** |  |  |  |  | | --- | --- | --- | | **Evaluation Method** | **Correct Answer** | **Case Sensitivity** | | Correct*Exact Match* | Expired passwords |  |  |  | | --- | | **Correct Answers for: D** |  |  |  |  | | --- | --- | --- | | **Evaluation Method** | **Correct Answer** | **Case Sensitivity** | | Correct*Exact Match* | Password reuse |  | |  |  |  |

Sunday, October 11, 2015 8:19:11 PM CDT