* **Question 1**

10 out of 10 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
|  | In a JSON-based document database, which one of the following statements is *false*. |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | d.  The documents in a collection must be of the same type. | |  |  |  |

* **Question 2**

10 out of 10 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
|  | A \_\_\_\_\_\_\_\_ is a transformation of state which has the properties of atomicity (all or nothing), durability (effects survive failures) and consistency (a correct transformation). |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | a.  transaction | |  |  |  |

* **Question 3**

10 out of 10 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
|  | Dynamo allows the application to choose the level of consistency applied to specific operations. NWR notation describes how Dynamo will trade off consistency, read performance, and write performance. What NWR configuration would provide consistency? |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | d.  N=4, W=3, R=2 | |  |  |  |

* **Question 4**

10 out of 10 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
|  | The essence of the columnar database is that \_\_\_\_\_\_\_\_. |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | d.  data for columns is grouped together on disk. | |  |  |  |

* **Question 5**

10 out of 10 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
|  | What database system uses Hadoop HDFS as a file system in the same way that most traditional relational databases use the operating system file system? |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | c.  HBase | |  |  |  |

* **Question 6**

10 out of 10 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
|  | In a sharded database, which one of the following statements is *false*? |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | d.  We can issue an SQL join statement that operates across shards. | |  |  |  |

* **Question 7**

10 out of 10 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
|  | What programming tool (technique) that translates the logical representation of the objects into an atomized form that is capable of being stored in a relational database, while preserving the properties of the objects and their relationships so that they can be reloaded as objects when needed? |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | d.  Object-relational mapping (ORM) | |  |  |  |

* **Question 8**

10 out of 10 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
|  | What technologies inspired and formed the basis for the Hadoop system? |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | b.  GFS, MapReduce, and BigTable | |  |  |  |

* **Question 9**

10 out of 10 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
|  | In a JSON-based document database, a document comprises one or more \_\_\_\_\_\_\_\_\_\_\_\_, and may also contain nested documents and arrays. Arrays may also contain documents allowing for a complex hierarchical structure. |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | d.  key-value pairs | |  |  |  |

* **Question 10**

10 out of 10 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
|  | Which one of the following options is *not* an In-Memory database? |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | a.  Hive | |  |  |  |