**Princess Sumaya University for Technology**

**King Hussein School for Information Technology Computer Science Department**

**Database Systems Quiz3**

**Student Name: Student ID:**

Choose the correct answer and fill the table

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** |
|  |  |  |  |  |  |  |  |  |  |

**Choose the option that correctly answers the question.**

1. **The relational model represents the database as a collection of \_\_\_\_\_\_.**
2. files
3. relations
4. applications
5. systems
6. **In formal relational model terminology, a column is called \_\_\_\_\_\_.**
7. tuple
8. attribute
9. relation
10. domain
11. **The data type of values that appear in each column is represented by \_\_\_\_\_ of possible values.**
12. range
13. product
14. domain
15. function
16. **The null value of an attribute indicates \_\_\_\_\_\_ value.**
17. zero
18. unknown
19. infinite
20. error
21. **When there is more than one key in a relation, then each such key is called \_\_\_\_\_\_ key.**
22. primary
23. partial
24. candidate
25. secondary
26. **Of the following, which can be a potential change on a database schema?**
27. modify attribute value
28. delete an existing tuple
29. insert a new tuple
30. delete an attribute

**In questions 7-10, consider the following relations, and specify which constraint is violated, if any, when applying a given operation.**

**BOOK**

|  |  |  |  |
| --- | --- | --- | --- |
| **BookID** | **Title** | **Publication\_date** | **AuthorID (FK)** |
| 1234 | Pride and Prejudice | 28-JAN-1813 | 111 |
| 4568 | Jane Eyre | 19-OCT- 1847 | 222 |
| 7568 | The Old Man and the Sea | 1-SEP- 1952 | 333 |

**AUTHOR**

|  |  |  |  |
| --- | --- | --- | --- |
| **AuthorID** | **Fname** | **Lname** | **Country** |
| 111 | Jane | Austen | UK |
| 222 | Charlotte | Brontë |  |
| 333 | Ernest | Hemingway | USA |

1. **Insert <333, ‘Elif’, ‘Shafaq’, ‘Turkey’> into AUTHOR**
2. Domain constraint
3. Key constraint
4. Entity integrity constraint
5. Valid operation
6. **Delete from AUTHOR where AuthorID = 333**
7. Entity integrity constraint
8. Valid operation
9. Referential integrity constraint
10. Key constraint
11. **Insert <3569, ‘Sense and Sensibility’, ‘19th century’, 111> into BOOK**
12. Key constraint
13. Domain constraint
14. Referential integrity constraint
15. Valid operation
16. **Insert <444, ‘Jane’, ‘Tolstoy’, NULL> into AUTHOR**
17. Entity integrity constraint
18. Domain constraint
19. Valid operation
20. Key constraint