Subject: **DBI202- Database Systems**

Number of question: 20

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| QN=1 | What is a database system? |
| a. | The DBMS software |
| b. | The data |
| c. | The DBMS software together with the data itself |
| d. | The data model |
| e. |  |
| f. |  |
| ANSWER: | C |
| MARK: | 1 |
| UNIT: | 1 |
| LO: | LO1 |
| MIX CHOICES: | Yes |

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| QN=2 | Two popular approaches of information integration are: |
| a. | Creation of data warehouses |
| b. | Implementation of a middleware |
| c. | Increase of storage |
| d. | Use of cloud computing |
| e. |  |
| f. |  |
| ANSWER: | AB |
| MARK: | 1 |
| UNIT: | 1 |
| LO: | LO1 |
| MIX CHOICES: | Yes |

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| QN=3 | Query is parsed and optimized by the |
| a. | query compiler |
| b. | query plan |
| c. | execution engine |
| d. | transaction manager |
| e. |  |
| f. |  |
| ANSWER: | A |
| MARK: | 1 |
| UNIT: | 1 |
| LO: | LO2 |
| MIX CHOICES: | Yes |

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| QN=4 | For select operation, after the sigma, the \_\_\_\_\_\_\_\_ appear in the subscript and the \_\_\_\_\_\_\_\_\_\_\_ argument appears in the parentheses. |
| a. | condition, relation |
| b. | relation, condition |
| c. | operation, condition |
| d. | relation, operation |
| e. |  |
| f. |  |
| ANSWER: | A |
| MARK: | 1 |
| UNIT: | 3 |
| LO: | LO2 |
| MIX CHOICES: | Yes |

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| QN=5 | The result of an operation contains all pairs of tuples from the two relations, regardless of whether their attribute values match. What is that operation? |
| a. | Join |
| b. | Cartesian product |
| c. | Intersection |
| d. | Set difference |
| e. |  |
| f. |  |
| ANSWER: | B |
| MARK: | 1 |
| UNIT: | 3 |
| LO: | LO3 |
| MIX CHOICES: | Yes |

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| QN=6 | SELECT \* FROM employee  WHERE salary>10000 AND dept\_id=101;  Which of the following fields is/are displayed as output? |
| a. | salary, dept\_id |
| b. | employee |
| c. | salary |
| d. | All the fields of employee relation |
| e. |  |
| f. |  |
| ANSWER: | D |
| MARK: | 1 |
| UNIT: | 2 |
| LO: | LO3 |
| MIX CHOICES: | Yes |

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| QN=7 | The primary key in a many to one relationship, acts as a foreign key on which side? |
| a. | On the side where the many relationship is defined |
| b. | On the side where the one relationship is defined |
| c. | On both sides |
| d. | On none of the sides |
| e. |  |
| f. |  |
| ANSWER: | A |
| MARK: | 1 |
| UNIT: | 1 |
| LO: | LO4 |
| MIX CHOICES: | Yes |

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| QN=8 | What is true about a weak entity set in an ERD? |
| a. | It has a primary key. |
| b. | It is not existence dependent on a dominant entity. |
| c. | It must be part of a one to many relationship set. |
| d. | It must not participate as owner in an identifying relationship with another entity set. |
| e. |  |
| f. |  |
| ANSWER: | C |
| MARK: | 1 |
| UNIT: | 5 |
| LO: | LO4 |
| MIX CHOICES: | Yes |

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| QN=9 | A super key for which no proper subset is a super key is |
| a. | a primary key |
| b. | a minimal key |
| c. | a candidate key |
| d. | a foreign key |
| e. |  |
| f. |  |
| ANSWER: | C |
| MARK: | 1 |
| UNIT: | 2 |
| LO: | LO2 |
| MIX CHOICES: | yes |

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| QN=10 | Let R(A,B,C,D,E,P,G) be a relational schema in which the following FDs are known to hold:  AB->CD  DE->P  C->E  P->C  B->G  The relation schema R is |
| a. | in BCNF |
| b. | in 3NF, but not in BCNF |
| c. | in 2NF, but not in 3NF |
| d. | not in 2NF |
| e. |  |
| f. |  |
| ANSWER: | D |
| MARK: | 1 |
| UNIT: | 3 |
| LO: | LO3 |
| MIX CHOICES: | Yes |

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| QN=11 | Consider the following relations for a library database:  Book (Title, Author, Catalog\_no, Publisher, Year, Price)  Collection (Title, Author, Catalog\_no)  with the following functional dependencies:  1. Catalog\_no -> Title, Author, Publisher, Year  2. Publisher, Title, Year -> Price  Assume {Author, Title} is the key for both relations. Which of the following statements is true? |
| a. | Both Book and Collection are in 1NF only |
| b. | Both Book and Collection are in 3NF only |
| c. | Book is in 2NF and Collection is in 3NF |
| d. | Both Book and Collection are in 2NF only |
| e. |  |
| f. |  |
| ANSWER: | C |
| MARK: | 1 |
| UNIT: | 3 |
| LO: | LO3 |
| MIX CHOICES: | Yes |

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| QN=12 | Which of the following statements contains an error? |
| a. | Select \* from emp where empid = 10003; |
| b. | Select empid from emp where empid = 10006; |
| c. | Select empid from emp; |
| d. | Select empid where empid = 1009 and lastname = ‘GELLER’; |
| e. |  |
| f. |  |
| ANSWER: | D |
| MARK: | 1 |
| UNIT: | 4 |
| LO: | LO4 |
| MIX CHOICES: | yes |

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| QN=13 | Consider the following ERD:  (Q13.png)  Which of the following relations will hold, if the above ERD is mapped into a relational model? Select three. |
| a. | EMPLOYEE (Emp\_No, F\_Name, M\_Name, L\_Name, Emp\_Sal) |
| b. | Works\_in (Emp\_No, Emp\_Name, Since) |
| c. | Works\_in (Emp\_No, Dep\_No, Since) |
| d. | DEPARTMENT (Dep\_No, Dep\_Name) |
| e. |  |
| f. |  |
| ANSWER: | ACD |
| MARK: | 1 |
| UNIT: | 6 |
| LO: | LO5 |
| MIX CHOICES: | yes |

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| QN=14 | Let E1 and E2 be two entities in an ERD with simple single-valued attributes. R1 and R2 are two relationships between E1 and E2, where R1 is one-to-many and R2 is many-to-many. R1 and R2 do not have any attributes of their own. What is the minimum number of tables required to represent this situation in the relational model? |
| a. | 2 |
| b. | 3 |
| c. | 4 |
| d. | 5 |
| e. |  |
| f. |  |
| ANSWER: | B |
| MARK: | 1 |
| UNIT: | 6 |
| LO: | LO5 |
| MIX CHOICES: | yes |

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| QN=15 | Select count(\_\_\_\_\_ ID)  From Teaches  Where semester =’Spring’ and year=2010;  If we want to eliminate duplicates, which of the following keywords should we use in the aggregate expression? |
| a. | Primary key |
| b. | Distinct |
| c. | Avg |
| d. | Count uninque |
| e. |  |
| f. |  |
| ANSWER: | B |
| MARK: | 1 |
| UNIT: | 7 |
| LO: | LO7 |
| MIX CHOICES: | yes |

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| QN=16 | Consider the following block:  Transaction…  Commit;  Rollback;  What does Rollback do? |
| a. | Clears all transactions |
| b. | Undoes the transactions before commit |
| c. | Redoes the transactions before commit |
| d. | Nothing |
| e. |  |
| f. |  |
| ANSWER: | D |
| MARK: | 1 |
| UNIT: | 8 |
| LO: | LO6 |
| MIX CHOICES: | Yes |

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| QN=17 | Which of the following clause cannot be used in SQL sub queries? |
| a. | GROUP BY |
| b. | ORDER BY |
| c. | DELETE |
| d. | FROM |
| e. |  |
| f. |  |
| ANSWER: | B |
| MARK: | 1 |
| UNIT: | 7 |
| LO: | LO5 |
| MIX CHOICES: | Yes |

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| QN=18 | What does trigger15 do?  CREATE TRIGGER trigger15 ON Logs  AFTER INSERT  AS  INSERT INTO NotificationEmails (Recipient, Subject, Body)  SELECT inserted.AccountId,  'Balance change for account: '+ inserted.AccountId,  'On '+ GETDATE() + ' your balance was changed from' + inserted.OldSum + ' to ' + inserted.NewSum + '.'  FROM inserted |
| a. | It inserts a new record in NotificationEmails table whenever a new record is inserted in Logs table. |
| b. | It inserts a new record in NotificationEmails table whenever un update takes place in Logs table. |
| c. | It inserts a new record in NotificationEmails table whenever a record is deleted from Logs table. |
| d. | It deletes a record from NotificationEmails table whenever a record is deleted from Logs table. |
| e. |  |
| f. |  |
| ANSWER: | A |
| MARK: | 1 |
| UNIT: | 4 |
| LO: | LO6 |
| MIX CHOICES: | Yes |

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| QN=19 | Which of the following relation updates all instructors with salary over $100,000 receive a 3 percent raise, whereas all others receive a 5 percent raise? Select two. |
| a. | UPDATE instructor  SET salary = salary \* 1.03  WHERE salary > 100000;  UPDATE instructor  SET salary = salary \* 1.05  WHERE salary <= 100000; |
| b. | UPDATE instructor  SET salary = salary \* 1.05  WHERE salary < (SELECT avg (salary)  FROM instructor); |
| c. | UPDATE instructor  SET salary = CASE  WHEN salary <= 100000 THEN salary \* 1.05  ELSE salary \* 1.03  END |
| d. | UPDATE instructor  IF salary > 100000 SET salary = salary \* 1.03  ELSE SET salary = salary \* 1.05 |
| e. |  |
| f. |  |
| ANSWER: | AC |
| MARK: | 1 |
| UNIT: | 6 |
| LO: | LO5 |
| MIX CHOICES: | Yes |

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| QN=20 | \_\_\_\_\_\_\_\_ will undo all statements up to commit. |
| a. | Redo |
| b. | Rollback |
| c. | Abort |
| d. | Transaction |
| e. |  |
| f. |  |
| ANSWER: | B |
| MARK: | 1 |
| UNIT: | 8 |
| LO: | LO6 |
| MIX CHOICES: | yes |