Code No: RR411004 **RR** **Set No. 2**

IV B.Tech I Semester Examinations,NOVEMBER 2010
DATABASE MANAGEMENT SYSTEMS
Common to Electronics And Control Engineering, Electronics And Instrumentation Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. (a) Suppose the scheme R =(A,B,C,D,E) is decomposed into (A,B,C) and (A,D,E), show that the decomposition is not a dependency preserving decomposition if the following set of functional dependencies hold.

   A− > BC
   CD− > E
   B− > D
   E− > A

   (b) List all functional dependencies satisfied by the following relation.

A	B	C
a1	b1	c1
a1	b1	c2
a2	b1	c1
a2	b1	c3

   [10+6]

2. (a) Discuss various properties of a transaction.
   (b) The DBMS does not guarantee that the semantic meaning of the transaction truly represent the real world event. What are the possible consequences of this limitation? Give an example. [8+8]

3. Explain in detail the ARIES recovery method. [16]

4. (a) Discuss the techniques for allowing a hash file to expand and shrink dynamically.
   (b) What are the advantages and disadvantages of each of above techniques.[8+8]

5. Write short notes on the following.
   (a) SQL query translation process.
   (b) Equivalences of relational algebra. [6+10]

6. (a) What is DDL? Explain the commands used for creating, deleting and modifying the tables.
   (b) What is the difference between a candidate key and a primary key for a given relation? What is a super key ? [8+8]

7. (a) Explain the steps involved in Heuristics Optimization algorithm. Discuss its advantages and disadvantages.

   (b) Let r and s be relations with no indices, and assume that the relations are not stored. Assuming infinite memory, what is the lowest cost (in terms of I/O operations) to compute r X s. What is the amount of memory required for this algorithm. [10+6]

8. (a) Discuss the various DDL, DML commands with illustrations in SQL.

   (b) Why are null values not preferred in a relation? [12+4]

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Code No: RR411004 **RR** **Set No. 4**

IV B.Tech I Semester Examinations,NOVEMBER 2010
DATABASE MANAGEMENT SYSTEMS
Common to Electronics And Control Engineering, Electronics And Instrumentation Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. (a) Suppose the scheme R =(A,B,C,D,E) is decomposed into (A,B,C) and (A,D,E), show that the decomposition is not a dependency preserving decomposition if the following set of functional dependencies hold.

   A− > BC
   CD− > E
   B− > D
   E− > A

   (b) List all functional dependencies satisfied by the following relation.

A	B	C
a1	b1	c1
a1	b1	c2
a2	b1	c1
a2	b1	c3

   [10+6]

2. Write short notes on the following.
   (a) SQL query translation process.
   (b) Equivalences of relational algebra. [6+10]

3. (a) What is DDL? Explain the commands used for creating, deleting and modifying the tables.
   (b) What is the difference between a candidate key and a primary key for a given relation? What is a super key ? [8+8]

4. (a) Discuss the techniques for allowing a hash file to expand and shrink dynamically.
   (b) What are the advantages and disadvantages of each of above techniques.[8+8]

5. (a) Discuss various properties of a transaction.
   (b) The DBMS does not guarantee that the semantic meaning of the transaction truly represent the real world event. What are the possible consequences of this limitation? Give an example. [8+8]

6. (a) Discuss the various DDL, DML commands with illustrations in SQL.

(b) Why are null values not preferred in a relation? [12+4]

7. (a) Explain the steps involved in Heuristics Optimization algorithm. Discuss its advantages and disadvantages.

   (b) Let r and s be relations with no indices, and assume that the relations are not stored. Assuming infinite memory, what is the lowest cost (in terms of I/O operations) to compute r X s. What is the amount of memory required for this algorithm. [10+6]

8. Explain in detail the ARIES recovery method. [16]

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Code No: RR411004 **RR** **Set No. 1**

IV B.Tech I Semester Examinations,NOVEMBER 2010
DATABASE MANAGEMENT SYSTEMS
Common to Electronics And Control Engineering, Electronics And Instrumentation Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. Write short notes on the following.
   (a) SQL query translation process.
   (b) Equivalences of relational algebra. [6+10]
2. (a) Discuss the techniques for allowing a hash file to expand and shrink dynamically.
   (b) What are the advantages and disadvantages of each of above techniques.[8+8]
3. (a) Discuss the various DDL, DML commands with illustrations in SQL.
   (b) Why are null values not preferred in a relation? [12+4]
4. (a) Explain the steps involved in Heuristics Optimization algorithm. Discuss its advantages and disadvantages.
   (b) Let r and s be relations with no indices, and assume that the relations are not stored. Assuming infinite memory, what is the lowest cost (in terms of I/O operations) to compute r X s. What is the amount of memory required for this algorithm. [10+6]
5. (a) Discuss various properties of a transaction.
   (b) The DBMS does not guarantee that the semantic meaning of the transaction truly represent the real world event. What are the possible consequences of this limitation? Give an example. [8+8]
6. (a) Suppose the scheme R =(A,B,C,D,E) is decomposed into (A,B,C) and (A,D,E), show that the decomposition is not a dependency preserving decomposition if the following set of functional dependencies hold.

   A− > BC
   CD− > E
   B− > D
   E− > A

(b) List all functional dependencies satisfied by the following relation.

A	B	C
a1	b1	c1
a1	b1	c2
a2	b1	c1
a2	b1	c3

[10+6]

7. Explain in detail the ARIES recovery method. [16]

8. (a) What is DDL? Explain the commands used for creating, deleting and modifying the tables.

   (b) What is the difference between a candidate key and a primary key for a given relation? What is a super key ? [8+8]

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Code No: RR411004 **RR** **Set No. 3**

IV B.Tech I Semester Examinations,NOVEMBER 2010
DATABASE MANAGEMENT SYSTEMS
Common to Electronics And Control Engineering, Electronics And Instrumentation Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Suppose the scheme R =(A,B,C,D,E) is decomposed into (A,B,C) and (A,D,E), show that the decomposition is not a dependency preserving decomposition if the following set of functional dependencies hold.

   A− > BC
   CD− > E
   B− > D
   E− > A

   (b) List all functional dependencies satisfied by the following relation.

A	B	C
a1	b1	c1
a1	b1	c2
a2	b1	c1
a2	b1	c3

   [10+6]

2. (a) Discuss the techniques for allowing a hash file to expand and shrink dynamically.
   (b) What are the advantages and disadvantages of each of above techniques.[8+8]

3. (a) Discuss various properties of a transaction.
   (b) The DBMS does not guarantee that the semantic meaning of the transaction truly represent the real world event. What are the possible consequences of this limitation? Give an example. [8+8]

4. (a) Discuss the various DDL, DML commands with illustrations in SQL.
   (b) Why are null values not preferred in a relation? [12+4]

5. Explain in detail the ARIES recovery method. [16]

6. Write short notes on the following.
   (a) SQL query translation process.
   (b) Equivalences of relational algebra. [6+10]

7. (a) What is DDL? Explain the commands used for creating, deleting and modifying the tables.

(b) What is the difference between a candidate key and a primary key for a given relation? What is a super key ? [8+8]

8. (a) Explain the steps involved in Heuristics Optimization algorithm. Discuss its advantages and disadvantages.

(b) Let r and s be relations with no indices, and assume that the relations are not stored. Assuming infinite memory, what is the lowest cost (in terms of I/O operations) to compute r X s. What is the amount of memory required for this algorithm. [10+6]

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