Code No: 07A50801 **R07** **Set No. 2**

III B.Tech I Semester Examinations,MAY 2011
DATA BASE MANAGEMENT SYSTEM
Common to Chemical Engineering, Mechatronics

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

Answer any FIVE Questions
All Questions carry equal marks

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1. Explain the following with an example.
   (a) Select clause
   (b) as clause
   (c) Order by clause
   (d) Where clause. [4+4+4+4]
2. (a) Explain difference between a logical & physical record.
   (b) What is the optimum number of records per block in a file? [8+8]
3. (a) What is relation? Differentiate between a relational schema and a relation instance? Illustrate them with an example.
   (b) What are domain constraints? Explain.
   (c) Define Relational database and relational database schema. [6+5+5]
4. (a) What do you mean by concurrent executions of a transaction ? Explain
   (b) Explain serializable schedule under the tree protocol. [8+8]
5. (a) Explain the minimal cover for a set of FD's? Why some functional dependencies are called trivial?
   (b) Verify augmentation and decomposition rules for multi valued dependencies. [10+6]
6. (a) Explain the key features that are provided by ARIES?
   (b) Explain the different types of failures. [8+8]
7. (a) Explain DBMS languages.
   (b) List six major steps that should be taken in setting up a database for particular enterprises. [8+8]
8. (a) What are ER diagrams? Explain with aggregation? Explain weak entity sets? How can we translate an ER diagram into SQL statements to create tables?
   (b) How are entity sets mapped into relations? How are relationship sets mapped? [10+6]

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Code No: 07A50801 **R07** **Set No. 4**

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

Answer any FIVE Questions
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1. (a) How does SQL allow implementation of general integrity constraints?
   (b) Discuss about the embedded SQL?
   (c) Explain about the Insert and Delete SQL commands
   (d) Explain about the data definition? [4+4+4+4]
2. (a) Describe the transaction management in a database.
   (b) What is logical data independence and why is it important. [8+8]
3. (a) Explain what is the impact of locking on performance.
   (b) How does a DBMS guarantee transaction atomicity and recovery from system crashes. [8+8]
4. Describe
   (a) Page LSN
   (b) Dirty page table
   (c) Check point log record
   (d) Compensation log record. [16]
5. (a) Define generalization? What are the constraints on generalization? Explain?
   (b) What is the purpose of high level data model
   (c) What is derived attribute? Give example. [8+4+4]
6. (a) Explain BCNF and 5NF with an example.
   (b) Explain why the relational databases theory requires that the relations should be in first normal form. Give an example to show that in representing some entity relationships we may not prefer to design a 1NF scheme. [8+8]
7. (a) Define the terms:
      i. relation schema
      ii. relation instance
      iii. relational database
      iv. grouping data
   (b) What is difference between primary key and a candidate key for a given relation? [8+8]

8. Explain basic operations search, insertion & deletion on B^+ trees? [16]

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Code No: 07A50801 **R07** **Set No. 1**

III B.Tech I Semester Examinations,MAY 2011
DATA BASE MANAGEMENT SYSTEM
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Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) What is dependency closure F+ of a set F of FD's. What is the attribute closure X+ of a set of attributes with respect to a set of FD's F?
   (b) What are the benefits of denormalization?
   (c) What is a modification anomaly? [8+5+3]
2. (a) Describe the three-level database architecture.
   (b) What is meant by security? What does the DBMS do with security?
   (c) What is the difference between network and hierarchical model in databases? [5+5+6]
3. Describe the following:
   (a) Concurrent executions
   (b) Serializability [8+8]
4. What do you mean by enforcing integrity constraints explain? [16]
5. (a) What is the difference between a primary index & a secondary index ? What is duplicate data entry in an index?
   (b) Explain the issues considered in clustered indexes? What is primary advantage? [8+8]
6. (a) What are null values? Can primary key field of a query contain null values? How do they affect the meaning of queries? Is there any impact on SQL?
   (b) Explain logic connectives with examples. [8+8]
7. (a) What are ER diagrams? Explain with aggregation? Explain weak entity sets? How can we translate an ER diagram into SQL statements to create tables?
   (b) How do you explain cardinality limits on relationship sets? [10+6]
8. Explain the concept of shadow paging in database recovery [16]

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Code No: 07A50801 **R07** **Set No. 3**

III B.Tech I Semester Examinations,MAY 2011
DATA BASE MANAGEMENT SYSTEM
Common to Chemical Engineering, Mechatronics

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

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Explain the properties of decomposition?
   (b) Explain the functional dependency and multi valued dependency? [8+8]
2. (a) Explain the applications of database system?
   (b) What is the purpose of database system?
   (c) What are the advantages and disadvantages of a deductive database model? [8+4+4]
3. (a) What is serializability? Explain with an example?
   (b) Explain lock based protocols with an example. [8+8]
4. What is the purpose of data constraints and relational database design? Explain. [16]
5. (a) What is meant by compound condition in SQL? How do you enter one in a SQL query?
   (b) How do you use join tables in SQL? [8+8]
6. (a) Explain about hashed file with an example
   (b) Explain about the sorted file with an example [8+8]
7. Describe the architecture of a remote backup system? [16]
8. (a) What are the ways that are provided for foreign key violations ? Explain the ways that are provided by SQL? How do you check constraint violations ?
   (b) What relational algebraic operations are derived from the set theory? [8+8]

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