

**STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086**  
**(For Candidates admitted during the academic year 2004-05 & thereafter)**

**SUBJECT CODE : CA/MC/DB34**

**B.C.A. DEGREE EXAMINATION – NOVEMBER 2007**  
**THIRD SEMESTER**

**REG. NO. : \_\_\_\_\_**

**COURSE : MAJOR CORE**

**PAPER : DATABASE MANAGEMENT SYSTEMS**

**TIME : 20 MINUTES**

**MAX. MARKS : 20**

**TO BE ANSWERED ON THE QUESTION PAPER ITSELF :**

**SECTION – A**

**(20X1=20)**

**ANSWER ALL THE FOLLOWING :**

**Choose the best answer :**

1. Which normal form is adequate for relational database design.  
a) 2 NF                      b) 5 NF                      c) 4 NF                      d) 3 NF
2. A locked file can be \_\_\_\_\_  
a) accessed by only one user.  
b) modified by users with correct password.  
c) Used to hide sensitive information.  
d) Both A & B.
3. Which of the following is not characteristic of a relational model.  
a) table    b) tree like structure  
c) complex logical relationships              d) records
4. A functional dependency of the form  $x \rightarrow y$  is trivial if \_\_\_\_\_  
a)  $y \subseteq x$                       b)  $y \subset x$                       c)  $x \subseteq y$                       d)  $x \subset y$  &  $y \subset x$
5. A file manipulation command that extracts some of the records from a file is called \_\_\_\_\_.  
a) SELECT                      b) PROJECT                      c) JOIN                      d) none
6. The database administrator is the coordinator between the \_\_\_\_\_ and the \_\_\_\_\_.  
a) DBMS, database    b) application program, database  
c) Database, users    d) application program, users
7. A data dictionary does not provide information about \_\_\_\_\_.  
a) where data is located    b) the size of disk storage device  
c) who owns the data    d) how the data is used
8. The language used in application program to request data from the DBMS is referred to as \_\_\_\_\_.  
a) DML    b) DDL    c) query language                      d) none

- 9. In the hierarchy of data organization, the smallest entity to be processed as a single unit is called \_\_\_\_\_  
a) data field      b) data record      c) data file      d) database
- 10. 'Every determinant should be a candidate key' is the definition of \_\_\_\_\_ NF  
a) project-join      b) 2      c) Boyce codd      d) 3

**Fill in the blanks :**

- 11. In the relational model, the columns of the table are known as \_\_\_\_\_
- 12. If every non key attribute is functionally dependent on the primary key, then the relation will be in \_\_\_\_\_.
- 13. \_\_\_\_\_ is a miniature program that tells the DBMS, what to do.
- 14. A primary key, if combined with a foreign key creates \_\_\_\_\_
- 15. \_\_\_\_\_ statement is used to confer authorization.

**True or False :**

- 16. Data element path is provided by the file key.
- 17. An access path is provided by the file key.
- 18. In database management, a DBMS accesses the database directly, but application programs do not.
- 19. A distributed database is a central database that can be accessed or modified from terminals at user locations.
- 20. An alternate key is a candidate key that is not a primary key.



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PAPER : DATABASE MANAGEMENT SYSTEMS  
TIME : 2HOURS & 40 MINUTES** **MAX. MARKS : 80**

**SECTION – B (8X5=40)**

**ANSWER ANY EIGHT OF THE FOLLOWING**

1. Explain various levels of abstraction.
2. Categorize attribute types and explain.
3. What is tuple relational calculus? Explain.
4. Give the basic structure of SQL, and explain its clauses.
5. Define the terms Assertions & Trigger. Give examples for each.
6. What is Boyce Codd Normal Form ?
7. Explain data dictionary.
8. Discuss the organization of records in files.
9. Explain the properties of transactions.
10. Write the importance of checkpoints.

**SECTION – C (4X10=40)**

**ANSWER ANY FOUR OF THE FOLLOWING**

11. Explain E-R model in detail.
12. Discuss the fundamental operations of relational algebra with examples.
13. Explain the properties of decomposition.
14. How is access to disk-block optimized?
15. Explain the following protocols
  - a) Growing phase
  - b) Shrinking phase
  - c) Read phase
  - d) Validation phase
  - e) Write phase

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