

**Social communication STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI –
600 086**

(For Candidates admitted during the academic year 2008 – 2009 & thereafter)

SUBJECT CODE: CS/MC/DB34

B.C.A. DEGREE EXAMINATION – NOVEMBER 2010

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

(20 X 1 = 20)

I Choose the best answer:

1. A Database Management System is a collection of _____
 - a. Interrelated data
 - b. Set of programs
 - c. Both a and b
 - d. None of these
2. _____ interact with the DBMS without writing programs
 - a. Naive users
 - b. Sophisticated users
 - c. Specialized users
 - d. Application programmers
3. _____ is an unary operation
 - a. Select
 - b. Aggregate
 - c. Union
 - d. Cartesian product
4. Which operation is not used in modification of database?
 - a. Deletion
 - b. Insertion
 - c. Updation
 - d. Selection
5. _____ is a statement that the system executes automatically as a side effect of modification of database
 - a. Assertion
 - b. Triggers
 - c. Views
 - d. None of the these
6. A tuple is called
 - a. Table
 - b. Row
 - c. Tuple variable
 - d. Atom

7. In E-R diagram _____ represents relationship
 - a. Rectangle
 - b. Ellipse
 - c. Diamond
 - d. Lines
8. ACID properties include
 - a. Atomicity
 - b. Consistency
 - c. Isolation
 - d. All of these
9. A transaction that completes its execution successfully is said to be
 - a. Active
 - b. Aborted
 - c. Committed
 - d. Rolled back
10. If α is a set of attributes and β is a subset of α , then $\alpha \rightarrow \beta$ is called
 - a. Reflexivity rule
 - b. Augmentation rule
 - c. Transitivity rule
 - d. Closure

II Say True or False:

11. The collection of information stored in the database at particular moment is called schema.
12. The primary key should be chosen such that its attribute values are never, or very rarely changed.
13. Domain constraints specify the set of possible values that may be associated with an attribute.
14. A domain is atomic if elements of domain are considered to be individual.
15. Two phase commit protocol ensures serializability

III Fill in the blanks:

16. _____ is a language that enables the user to access or manipulate data as organized by appropriate model.
17. _____ command is used to add attributes to an existing relation.
18. _____ is a non procedural query language.
19. _____ component of database is responsible for atomicity and durability of properties of transaction
20. Equality generating dependencies are known as _____.

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COURSE : MAJOR CORE
PAPER : DATABASE MANAGEMENT SYSTEMS
TIME : 2 HOURS & 40 MINUTES

MAX. MARKS: 80

SECTION – B

(8X5=40)

ANSWER ANY EIGHT OF THE FOLLOWING

1. List the disadvantages of file processing system.
2. Explain different data models.
3. What are null values? Why is it needed?
4. Write the functions of DBA.
5. Compare generalization and aggregation.
6. What are views? How do you define them?
7. Explain Tuple Relational Calculus.
8. Explain functional dependency.
9. What is data dictionary? Explain its function.
10. Explain rollback.

SECTION – C

(4X10=40)

ANSWER ANY FOUR OF THE FOLLOWING

11. a. Explain the E-R diagram and its components. (4)
b. Draw the E-R diagram for a customer transaction in a bank. (6)
12. Explain the set operations with suitable example.
13. Consider employee database.
Employee(emp_name, street, city)
Works(emp_name, company_name, salary)
Company(company_name, city)
Write the operation and the queries for the following
 - a. Find the names of all employees who work in BEL
 - b. Find name and city of all employees whose salary is above 10,000 /-
 - c. Find all the employees who do not live in Chennai
 - d. Find all the employees who work in Chennai for BEL
14. Discuss in detail about integrity constraints.
15. What is normalization? Explain the different types of normalization.
16. Discuss about transaction management in detail.
