

M.C.A. DEGREE EXAMINATIONS: APRIL/ MAY 2009

Fourth Semester

P07CAE06 ADVANCED DATABASES**Time: Three Hours****Maximum Marks: 100****Answer ALL the Questions:-****PART A (20 x 1= 20 Marks)**

1. The data type describing the types of values that can appear in each column is called ----
A. Domain B. Tuple C. Attribute D. Relation
2. If we denote the cardinality of a domain D by
A. $|\text{dom}(A_1)| + |\text{dom}(A_2)| + \dots + |\text{dom}(A_n)|$
B. $|\text{dom}(A_1)| * |\text{dom}(A_2)| * \dots * |\text{dom}(A_n)|$
C. $|\text{dom}(A_1 + A_2 + \dots + A_n)|$
D. $|\text{dom}(A_1 * A_2 * \dots * A_n)|$
3. A weak entity set always participates in a ----- relationship
A. many - to many B. Many - to - one C. One - to- many D. One - to -one
4. The condition for point clipping is _____
A. Semantics B. Domain C. Single Universal Relation D. Tuple
5. The Components of objects are -----
A. State & Value B. Behavior & Operation
C. State & Behavior D. Variable & Value
6. ----- are stored in the database and persist after program termination
A. Entry Points B. Persistent Object C. Object Modifier D. Transient Object
7. A transaction can go to the ----- state if one of the checks fails or if the transaction is aborted during its active state.
A. Partially Committed B. Terminated C. Committed D. Failed
8. The Phenomenon, in which a single transaction failure leads to series of transaction roll back, is called -----.
A. Recoverability B. Schedules C. Cascading Rollback D. Concurrency
9. ----- Provides concepts for database that keep track of objects in a multidimensional Space
A. Spatial database B. Temporal database
C. Multimedia database D. Distributed database

10. OLAP is -----
 A. On Line Application Processing B. On Line Arithmetic Processing
 C. On Line Analytic Processing D. Off-Line Analytical Processing
11. Data Mining Association rule is of this form.
 A. $X \Rightarrow Y$ B. $X = Y$ C. $X \Leftrightarrow Y$ D. $X \neq Y$
12. Regression is a special application of the -----
 A. Neural Network B. Regression Rule
 C. Classification Rule D. Linear Regression
13. A deductive database system is a database system that includes capability to define
 A. Association Rule B. Deductive Rule
 C. Classification Rule D. Regression Rule
14. LDC stands for
 A. Logic Data Language B. Language Data Logic
 C. Language Definition Logic D. Logic Definition Language
15. If all servers and Clients use identical software then the DBMS is called -----
 A. Heterogeneous B. Homogeneous
 C. Spatial database D. Deductive database
16. ----- refers to the execution of a single query in the parallel on multiple processors and Disk
 A. Intraquery Parallelism B. Interquery Parallelism
 C. Pipelined Parallelism D. Independent Parallelism
17. The heart of the database design process comprises
 A. Requirements collection and Analysis and Tuning
 B. Physical database design and choice of a DBMS
 C. Tuning and choice of a DBMS
 D. Conceptual database design, Data model mapping and Physical database design.
18. View integration approach is a part of -----
 A. Conceptual Schema Design B. Physical Database Design
 C. Data Model Mapping D. Tuning
19. DBA account in the DBMS is called -----
 A. System Account B. Programmer Account
 C. Multi user Account D. Programmer & Multi user account.
20. A Database Log that is used mainly for security purpose is called an -----
 A. Database Audits B. Access Protection C. Audit Log D. Audit Trail

21. (a) Exp
 (b) (i) I
 (ii) I
 22. (a) Brie
 (b) (i)
 (ii)
 23. (a) Dra
 App
 (b) EX
 24. (a) Des
 (b) Exp
 Dat
 25. (a) Exp
 (b) (i)
 (ii)

PART B (5 x 16 = 80 Marks)

21. (a) Explain the different Relational Algebra Operations with suitable example . (16)
- (OR)
- (b) (i) Describe the steps involved in processing a High Level Query (8)
- (ii) Explain the Boyce's Code Normal form with example (8)
22. (a) Briefly Explain the concept of Two Phase locking Protocol with suitable example. (16)
- (OR)
- (b) (i) Write short note on Serializability of Schedules. (8)
- (ii) Explain the basic terminologies in designing Object Oriented Database (8)
23. (a) Draw the Sketch of Mobile Architecture and explain the types of data in mobile Application with its Management issue. (16)
- (OR)
- (b) Explain the Spatial and Multimedia database and its application. (16)
24. (a) Describe the Basic Concepts of Active – Database. (16)
- (OR)
- (b) Explain the Data Fragmentation, Replication, Allocation techniques for Distributed Database (16)
25. (a) Explain the Database Tuning in Relational System. (16)
- (OR)
- (b) (i) Discuss the issues in Database Security. (8)
- (ii) Illustrate the Cost Based Query Optimization with suitable example. (8)
