

(6 pages)

Reg. No. :

Code No. : 8571

Sub. Code : HCSM 23

M.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2013.

Second Semester

Computer Science – Main

ADVANCED DATABASE SYSTEMS

(For those who joined in July 2012 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. A _____ is a collection of high-level data description constructs that hide many low level storage details.
(a) Data model (b) Data hiding
(c) Data abstraction (d) None
2. A _____ is an association among two or more entities.
(a) Relationship set (b) Entity set
(c) Attribute (d) Relationship

3. The _____ is allows users to pose queries and to insert, delete and modify rows.
(a) Data manipulation language
(b) Data definition language
(c) Trigger
(d) None
4. The SQL ALTER statement can be used to
(a) Change the table structure
(b) Change the table data
(c) Add rows to the table
(d) Delete rows from the table
5. Storing some information, in more than one place within a database is called _____.
(a) Concise (b) Redundant
(c) Both (a) and (b) (d) None
6. The _____ algorithm identifies partition in R and S in a partitioning phase.
(a) Aries
(b) Hash join
(c) Sort merge join
(d) Index nested loop join



7. Public key encryption can be used to create _____ for messages.

- (a) Public signature
- (b) Analog signature
- (c) Digital signature
- (d) None

8. A _____ record is written to indicate when the check point starts.

- (a) End check point (b) Fuzzy check point
- (c) Begin check point (d) Last check point

9. _____ covering multidimensional points, lines, rectangles, polygons, cubes and other geometric objects.

- (a) Spatial data (b) Region data
- (c) Point data (d) Raster data

10. _____ consists of breaking a relation into smaller relations and storing it, possibly at different sites.

- (a) Join
- (b) Replication
- (c) Fragmentation
- (d) Recovery

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PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) What are locks in a DBMS, and why are they used?

Or

(b) What are the SQL constructs to modify the structure of tables and views?

12. (a) What is unsafe calculus query? What is it important to avoid such queries?

Or

(b) Write short note on buffer manager.

13. (a) Write short note on set operations.

Or

(b) When is a decomposition said to be dependency preserving? Why is this property useful?

14. (a) What is ARIES? Explain.

Or

(b) What are the two types of Access Control? Explain the merits of the two approaches.

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15. (a) Describe the three main architecture for parallel DBMSs.

Or

- (b) What are structured datatypes? Explain.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

16. (a) Briefly explain the architecture of DBMS.

Or

- (b) Write short note on the following:

- (i) Transaction and constraints
- (ii) Translating weak entity sets
- (iii) Translating ER diagrams with aggregation.

17. (a) Write short note on ODBC and JDBC.

Or

- (b) Briefly explain page formats and record formats.

18. (a) What is join operation? Describe nested loops join and block nested loops join.

Or

- (b) Define multivalued dependencies, join dependencies and inclusion dependencies. Discuss the use of such dependencies for database design.

19. (a) Write short note on tools to assist in index selection.

Or

- (b) When should we create clustered indexes? Explain co-clustering.

20. (a) Why is recovery in a distributed DBMS more complicated than in a centralized system? Describe and compare two-phase and three phase commit.

Or

- (b) Write short note on Grid Files.

