

Seat No.	
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Final Year B.Tech. (Computer Science & Engineering)
(Part-IV)(Semester-VII) (CBCS) Examination, March- 2023
ADVANCED DATABASE SYSTEMS

Sub. Code : 83858

Day and Date : Saturday, 17 - 06 - 2023

Total Marks : 70

Time : 02.30 p.m. to 05.00 p.m.

- Instructions :** 1) All questions are compulsory.
2) Assume suitable data whenever necessary.

Q1) Solve all MCQ's of following:

[1 Mark Each]

- 1) A shared lock allows which of the following types of transactions to occur?
 - a) Delete & Insert
 - b) Read & Insert
 - c) Read
 - d) Update & Insert
- 2) This is an XML-based metalanguage developed by the Business Process Management Initiative (BPMI) as a means of modeling business processes, much as XML is, itself, a metalanguage with the ability to model enterprise data.
 - a) Biz Talk
 - b) BPML
 - c) e-biz
 - d) eb XML
- 3) Performance analysis and tuning is which of the following?
 - a) Undertaken one time at the time of a DBMS installation
 - b) Undertaken one time at the time of the implementation of a new application
 - c) Undertaken as an ongoing part of the managing & backup of a database
 - d) Undertaken as an ongoing part of managing a database
- 4) Patterns that can be discovered from a given database are which type?
 - a) More than one type
 - b) Multiple type always
 - c) One type only
 - d) No specific type

P.T.O.

- 5) Firms that are engaged in sentiment mining are analyzing data collected from?
- a) Social media sites
 - b) In-depth interviews
 - c) Focus groups
 - d) Experiments
- 6) _____ is the output of KDD.
- a) Query
 - b) Useful Information
 - c) Data
 - d) Information
- 7) Which of the following applied on warehouse?
- a) Write only
 - b) Read only
 - c) Both a & b
 - d) None of these
- 8) The transaction log includes which of the following?
- a) The essential data of the record & the before-image of a record
 - b) The before and after-image of a record & the after-image of a record
 - c) The before and after-image of a record
 - d) The essential data of the record
- 9) In which of the following architectures memory bus is not a bottleneck?
- a) Shared memory and shared disk
 - b) Shared disk and shared nothing
 - c) Shared memory and shared nothing
 - d) All of the above
- 10) Storing a separate copy of the database at multiple locations is which of the following?
- a) Data Replication
 - b) Horizontal Partitioning
 - c) Vertical Partitioning
 - d) Horizontal and Vertical Partitioning

- 11) Which of the following parallel database architecture is mainly used by distributed database system?
- a) Shared Memory
 - b) Shared Disk
 - c) Shared Nothing
 - d) Hierarchical
- 12) In ____, different queries of transactions execute in parallel with one another.
- a) Inter query parallelism
 - b) Intra query parallelism
 - c) Independent parallelism
 - d) None of the above
- 13) If we are to ensure atomicity, all the sites in which a transaction T executed must agree on the final outcome of the execution. T must either commit at all sites, or it must abort at all sites. To ensure this property, the transaction coordinator of T must execute a ____
- a) Commit
 - b) Commit protocol
 - c) Rollback
 - d) None of the above
- 14) If the speed of a parallel system is N when the larger system has N times the resources of the smaller system, then the speedup is ____
- a) Linear speedup
 - b) Sublinear speedup
 - c) Superlinear speedup
 - d) None of the above

Q2) Answer any Two:

[7 Marks Each]

- a) Explain data partitioning techniques used in parallel databases. Also give comparison between data partitioning techniques.
- b) What is trigger? Explain in detail, syntax to create trigger in oracle.
- c) Explain document in detail. Also explain MongoDB and CouchDB.

Q3) Answer any Two:

[7 Marks Each]

- a) Explain how to store data in distributed database systems.
- b) Explain in detail, syntax to create stored procedure in PL/SQL. Write PL/SQL procedure to find factorial of given number.
- c) Explain key/value stores in detail. Also explain cassandra.

Q4) Answer any Two:

[7 Marks Each]

- a) Explain DA and DBA characteristics.
- b) What is Data Mining? Explain with suitable example.
- c) What is Data validation?

Q5) Answer any Two:

[7 Marks Each]

- a) Different Database Administration tools.
- b) What is the role of the metadata repository in a data warehouse? How does it differ from a catalog ie relational DBMS?
- c) What is data-mining? Explain the analysis methodologies?

