

**U.G. 6th Semester Examination - 2022****BCA****Course Code : BBCADSHT6 [DSE-6]****Course Title : Advanced Database Management System**

Full Marks : 40

Time : 2 Hours

*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*

1. Answer any **ten** questions: 1×10=10
- a) Define Decentralized Database.
  - b) Write two merits of Binary Lock.
  - c) What do you mean by Data Warehousing?
  - d) Write the advantages of Replication.
  - e) What is client-server Architecture?
  - f) What is global transaction?
  - g) Define data mining.
  - h) What do you mean by object oriented database?
  - i) What is timestamp?

- j) Define spatial database.
  - k) What is data mart?
  - l) What is snowflake schema?
  - m) What is OLAP?
  - n) Define concurrency in ADBMS.
  - o) What is 'Integrity' in OODBMS?
2. Answer any **five** questions: 2×5=10
- a) Highlight the features of object oriented database.
  - b) Why we should use concurrency method?
  - c) Write the advantage of CLARANS over CLARA.
  - d) What is deadlock in distributed database?
  - e) Explain 2P locking protocol in concurrent operations for a distributed system.
  - f) What do you mean by vertical fragmentation?
  - g) Explain Distribution in Distributed DBMS.
  - h) Write the use of ER diagram model for OO relationships.

3. Answer any **two** questions:  $5 \times 2 = 10$
- a) Discuss timestamp ordering protocol for concurrency control.
  - b) Explain serializability and recoverability.
  - c) Describe the hierarchical and partitioning method of clustering.
4. Answer any **one** question:  $10 \times 1 = 10$
- a)
    - i) Differentiate between timestamp-based and validation based protocol in DBMS.
    - ii) Write the characteristics of a good concurrency protocol.
    - iii) Describe the different concurrency control protocols.  $2+2+6$
  - b) Discuss the object oriented data model for advanced DBMS. How heuristics is used in query optimization?  $6+4$
  - c)
    - i) Define best split.
    - ii) Write the criteria for splitting a decision tree.
    - iii) Discuss Principle of Tree Construction of Decision Tree.  $2+2+6$
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