U.G. 6th Semester Examination - 2021

BCA

Course Code : BBCADSHT6

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) What do you mean by K-Means Algorithm?

    b) Define Autonomy in ADBMS architecture.

    c) How data mining is different from DBMS?

    d) What is a heterogeneous distributed database?

    e) Write the advantages of Data Replication.

    f) What is global transaction?

    g) Write the areas where data mining are widely used.

    h) What is semi-join?

    i) Why is distributed database better than centralised database system?

    j) Mention one condition when fragmentation is needed.

    k) Write the advantages of Multi-dimensional data model.

    l) Without an interconnected network is it possible to setup a distributed system?

    m) What is vertical fragmentation?

    n) Define concurrency in ADBMS.

    o) Write two characteristics of Object Oriented DBMS.

2. Answer any **five** questions: 2×5=10

    a) Write the goals of data warehouse.

    b) Define Quorum Based Protocol.

    c) Define snowflake schema.

    d) What is conceptual design and view design in top-down design strategy?

    e) Describe about OLAP.

    f) Describe in short the application of Clustering.

    g) How deadlock can be handled in centralised system?

h) Mention the drawbacks of centralized database system that is resolved with DDBMS.

3. Answer any **two** questions: 5×2=10

a) i) What are the different clustering methods?

ii) Write the applications of cluster analysis in data minings. 2+3

b) Define Data Warehousing. Explain its applications. 2+3

c) i) Write the types of homogeneous distributed database.

ii) Differentiate between homogeneous and heterogeneous distributed database. 2+3

4. Answer any **one** question: 10×1=10

a) What are the goals of query optimization in DDBMS? Explain 2P Locking in ADBMS concurrency control with suitable diagram. Define Data Mining. 3+5+2

b) i) What are the challenges faced during implementations in data mining?

ii) Describe the different Data Mining techniques. 4+6

c) What is distribution transparency? What are the dimensions of distribution transparency? What is vertical fragmentation? 2+6+2

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