

U.G. 6th Semester Examination - 2020**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) Write an objective of distributed query processing.
 - b) What is an autonomous homogenous environment?
 - c) What is a transaction manager?
 - d) What is a heterogeneous distributed database?
 - e) What is vertical partitioning?
 - f) What is global transaction?
 - g) Mention a condition when replication should be used.

- h) What is semi-join?
- i) Mention a disadvantage of replication.
- j) Mention one need of fragmentation.
- k) What is decentralized database?
- l) Without an interconnected network is it possible to setup a distributed system?
- m) What is timestamping?
- n) How deadlock occurs in a distributed system?
- o) What is classification?

2. Answer any **five** questions : 2×5=10
- a) Define Distributed Database.
 - b) What is horizontal fragmentation?
 - c) In distribution design what is top-down approach and what is bottom-up approach?
 - d) What is conceptual design and view design in top-down design strategy?
 - e) What do you mean by global database repository?
 - f) Describe in short the application of Clustering.
 - g) Why using concurrency method is essential in DDBMS?

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

3. Answer any **two** questions : $5 \times 2 = 10$

a) Draw a diagram of the top-down design approach and explain the architecture. 5

b) Mention the needs to use data-mining. Define data warehousing. 3+2

c) Define Clustering. What are the applications of Clustering? What is the full form of CLARA? 1+3+1

4. Answer any **one** question : $10 \times 1 = 10$

a) What are the goals of query optimization in DDBMS? What is 3-tier architecture? With the help of that explain the reference architecture for distributed DBMS.

b) Define virtual warehouse, data mart and enterprise warehouse. Explain the 3-tier architecture of data warehouse. 2+2+2+4

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