MASTER OF SCIENCE (COMPUTER SCIENCE) (CBCS-2018 COURSE)
M.Sc. (Computer Science) Sem-I : WINTER- 2022
SUBJECT : ADVANCED DATABASE CONCEPTS

Day : Monday   Time : 02:00 PM-05:00 PM

Date : 9/1/2023   **W-20035-2022**   Max. Marks : 60

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N. B. :
   1) All questions are **COMPULSORY**.
   2) Figures to the right indicate **FULL** marks.
   3) Draw neat and labelled diagrams **WHEREVER** necessary.

Q. 1 Elaborate distributed data processing in detail. Also explain distributed **(15)** database design.

OR

Explain query processing in distributed database. Also discuss query optimization.

Q. 2 **A)** Attempt **ANY ONE** of the following: **(08)**

   i) Write in detail about various issues related to mobile databases.

   ii) Differentiate between homogenous and heterogeneous systems.

   B) Attempt **ANY ONE** of the following: **(07)**

   i) Explain various scalar operators in temporal databases.

   ii) Describe local reliability protocol in brief.

Q. 3 Attempt **ANY THREE** of the following: **(15)**

   a) Describe spatio-temporal patterns.

   b) Explain features of geographical information systems.

   c) State advantages of Object Oriented DBMS.

   d) Define-object identity, object structure

   e) Discuss types of failures in distributed database systems.

Q. 4 Write short notes on **ANY THREE** of the following: **(15)**

   a) Serializability

   b) Logical Data Independence

   c) Multimedia Database

   d) Two-Phase Locking Protocol

   e) Differentiate between Object Oriented DBMS and Relational DBMS

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