

MASTER OF SCIENCE (COMPUTER SCIENCE) (CBCS-2018 COURSE)
M.Sc. (Computer Science) Sem-I : WINTER :- 2021
SUBJECT: ADVANCED DATABASE CONCEPTS

Day : Monday
Date 7/2/2022

W-20035-2021

Time : 02:00 PM-05:00 PM
Max. Marks: 60

N. B. :

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Draw neat and labelled diagrams **WHEREVER** necessary.
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Q. 1 Elaborate the architecture of Parallel Database System in detail. **(15)**

OR

Differentiate between:

- i) Horizontal and Vertical Fragmentation
- ii) Homogenous and Heterogeneous Systems

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

- i) Write a note on network partitioning.
- ii) What is meant by query decomposition and data localization?

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

- i) Describe various scalar operators in Temporal Database.
- ii) Explain the overview of distributed query processing.

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

- a) Describe Local Reliability Protocol in detail.
- b) What is the difference between persistent and transient objects?
- c) Explain different features of Geographical Information System.
- d) Explain the architecture of Multimedia Database Management System.
- e) List basic operations of – object, Iterator.

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

- a) Two – phase locking protocol
- b) Web Databases
- c) Spatio – Temporal Patterns
- d) Reliability Measures
- e) Advantages of OODBMS

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