

**M. TECH.-III (INFORMATION TECHNOLOGY) (CBCS – 2015
COURSE) : WINTER - 2017**

SUBJECT: ELECTIVE – II:ADVANCED DATABASE MANAGEMENT SYSTEM

Day: **Thursday**
Date: **18/01/2018**

Time: **11.00 AM TO 02.00 PM**
Max Marks. 60

W-2017-2902

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in **SEPARATE** answer books.

SECTION - I

Q.1 What are advantages of distributed database? Compare distributed database with centralized database. (10)

OR

Explain data transparency characteristics of distributed database. Explain following data transparency forms (10)

- i) Fragmentation transparency.
- ii) Replication transparency.

Q.2 What are objectives of distributed query processing? Also explain phases of query processing in distributed database. (10)

OR

What is query optimization? Explain factors governing query optimization in distributed database. (10)

Q.3 What are three board levels at which a database system can be tuned to improve performance? (10)

OR

What is transaction processing council (TPC) benchmark? Explain TPC - A benchmark in detail. (10)

SECTION - II

Q.4 What are different load balancing techniques? Explain any one in detail. (10)

OR

What form of parallelism (inter-query, inter-operation or intra-operation) is likely to be the most important for each of the following tasks: Increasing the throughput of a system with many small queries, increasing the throughput of a system with a few large queries when the number of disks and CPU is large. (10)

Q.5 Differentiate concurrency control in centralized database systems and concurrency control in distributed database. (10)

OR

How are deadlock handled in transaction processing. (10)

Q.6 Write a note on following: (10)

- i) Spatial database.
- ii) NoSQL.

OR

What are the various data types handled by multimedia database management system. Explain their formats in detail. (10)