

T.E. INFT SEM V C-Scheme June 2026

Duration: 3 hours

[Max Marks:80]

- N.B. : (1) Question No 1 is Compulsory.
 (2) Attempt any three questions out of the remaining five.
 (3) All questions carry equal marks.
 (4) Assume suitable data, if required, and state it clearly.

12/06/26

Q.1 Answer any four questions. Each question carries five marks.

[20 M]

- A Explain Query Processing in details.
- B Differentiate between star schema and snowflake schema.
- C Explain characteristics (5 V's) of Big Data in details.
- D Explain the ETL process with a neat diagram.
- E Discuss design issues in distributed databases

Q.2 Answer the following.

- A Explain Discretionary Access Control, Mandatory Access Control and Role- Based Access Control in brief. [10 M]
- B What is mean by Distributed databases? List and explain types of distributed databases. [10 M]

Q.3 Answer the following.

- A Explain external sort merge algorithm with proper example and required number of block transfer and seek cost. [10 M]
- B Explain NoSQL architectural patterns. Discuss Key-Value Store and Document Store in detail with suitable examples. [10 M]

Q.4 Answer the following.

- A Consider a data warehouse for sales (Product, Time, Location). Explain OLAP operations: Slice, Dice, Roll-up, Drill-down, Pivot [10 M]
- B Explain CAP Theorem and BASE properties in detail. [10 M]

Q.5 Answer the following.

- A List various fragmentation strategies in distributed database and explain any one in detail. [10 M]
- B Explain concept of immediate data extraction and deferred data extraction. [10 M]

Q.6 Write a short note on (Any 4)

[20 M]

- A Factless Fact Table
- B Task involved in data transformation
- C Spatial database
- D OLTP
- E Data marts
