

June 13, 2024 02:30 pm - 05:30 pm 1T01235 - T.E.(Information Technology Engineering)(SEM-V)  
(Choice Base Credit Grading System ) (R- 19) (C Scheme) / 32426 - Department Optional Course-I:  
Advance Data Management Technologies QP CODE: 10057658

Time:3hrs

Max. Marks:80

**N.B.:**

1. **Question no. 1 is compulsory.**
2. Attempt **any Three** out of remaining **Five** questions.
3. Assume suitable data wherever necessary.
4. Figures at right indicates full marks.

- Q.1**
- a. Differentiate between data warehouse and data mart. **05**
  - b. Explain CAP theorem. Compare and contrast ACID and BASE. **05**
  - c. Explain Query processing in detail. **05**
  - d. Write a note on Mandatory Access Control. **05**
- Q.2**
- a. Differentiate Homogenous and Heterogeneous database systems. Also Explain Design Issues in Distributed Databases **10**
  - b. Explain the concept immediate data extraction and deferred data extraction in ETL with suitable example. **10**
- Q.3**
- a. Consider a data warehouse storing sales details of various products sold at different stores, and the time of the sales. Using this example analyse the following OLAP operations 1)slice 2)dice 3)rollup 4)drill down 5)pivot. **10**
  - b. Explain techniques of data loading with examples. **10**
- Q.4**
- a. Discuss the Various Access Control mechanism. Also discuss Grant and Revoke operation with suitable examples. **10**
  - b. Enlist four NoSQL Architectural Patterns. Discuss any two Architectural pattern in detail. **10**
- Q.5**
- a. Differentiate between ROLAP, MOLAP and HOLAP Models. **10**
  - b. Discuss Nested loop join and block Nested loop join algorithm in detail. **10**
- Q.6** Write Short Note on:
- a. Snowflake schema with example **10**
  - b. Mobile and Spatial Database. **10**
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