

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

M.Tech I Year II Semester Regular Examinations August-2026

ADVANCED DATABASES

(Computer Science and Engineering)

Time: 3 Hours

Max. Marks: 60

(Answer all Five Units 5 x 12 = 60 Marks)

UNIT-I

- 1 a Explain the architecture of centralized database systems. Discuss advantages and limitations. CO1 L2 6M
- b Describe Client-Server architecture and explain two-tier and three-tier models. CO1 L2 6M

OR

- 2 a Discuss server system architectures and compare transaction servers and data servers. CO1 L4 6M
- b Explain Parallel Database Systems and their importance in large-scale data processing. CO1 L2 6M

UNIT-II

- 3 a Explain the architecture of Distributed Database Systems. Discuss advantages and challenges. CO2 L2 6M
- b Differentiate between Homogeneous and Heterogeneous Distributed Databases with examples. CO2 L4 6M

OR

- 4 a Explain Distributed Data Storage techniques such as fragmentation, replication, and allocation. CO2 L4 6M
- b Describe Distributed Transactions and issues in maintaining consistency. CO2 L4 6M

UNIT-III

- 5 a Explain Decision-Support Systems (DSS). Discuss their role in modern organizations. CO3 L2 6M
- b Describe the architecture of a Data Warehouse. Explain its components in detail. CO3 L2 6M

OR

- 6 a Differentiate between OLTP and Data Warehousing systems. CO3 L4 6M
- b Explain the concept of Data Mining. Discuss its importance in knowledge discovery. CO3 L2 6M

UNIT-IV

- 7 a Explain the concept of Object-Based Databases. Discuss their features and advantages. CO4 L2 6M
- b Describe Complex Data Types in databases with suitable examples. CO4 L2 6M

OR

- 8 a Explain Structured Types and Inheritance in SQL with examples. CO4 L4 6M
- b Discuss Table Inheritance in SQL. How does it support object-oriented concepts? CO4 L4 6M

UNIT-V

- 9 a Explain the motivation behind XML. Discuss its advantages over traditional data formats. CO5 L2 6M
- b Describe the structure of XML data. Explain elements, attributes, and XML tree structure. CO5 L2 6M

OR

- 10 a Explain XML Document Schema (DTD and XML Schema). Compare their features. CO5 L4 6M
- b Discuss querying and transformation of XML data using XQuery and XSLT. CO5 L4 6M

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