

END TERM EXAMINATION

SEVENTH SEMESTER [B.TECH] FEBRUARY 2023

Paper Code: ETIT-427

Subject: Advanced Database Administration

Time: 3 Hours

Maximum Marks: 75

Note: Attempt five questions in all including Q. No.1 which is compulsory. Select one question from each unit. Assume missing data.

- Q1 Attempt **all** questions:- (2.5x10=25)
- (a) Discuss the four data allocation strategies .
 - (b) Write a note on mobile databases.
 - (c) Briefly explain data mining.
 - (d) Explain the role of Query Optimizer in Oracle.
 - (e) Describe the process of ETL for a data warehouse.
 - (f) Discuss , how Oracle manages database security?
 - (g) What are assertions ? Explain with an example.
 - (h) How can you protect your database from statistical query attacks? Explain.
 - (i) List the features of semantics database.
 - (j) What are challenges designing multimedia databases? Discuss.

UNIT-I

- Q2 (a) Discuss the main characteristics of the database approach and how it differs from traditional file system. (8)
- (b) What is data integrity? Explain the types of integrity constraints. (4.5)
- Q3 (a) What are semantic databases? List the features of semantic databases. Explain the process of searching the knowledge in these database. (7.5)
- (b) Compare and contrast the distributed DBMS environment with the centralized DBMS environment. (5)

UNIT-II

- Q4 (a) What are cursors, stored procedures and triggers? Give SQL Syntax for each and discuss the utility aspect of each. (7.5)
- (b) Explain Join- Dependency with the help of an example. With which normal form is it associated? (5)
- Q5 (a) What is "tuning a database"? What are the goals of tuning in relational database system? Why is Query tuning required? (6.5)
- (b) Explain data fragmentation in DDBMS with the help of an examples. (6)

UNIT-III

- Q6 (a) Explain the algorithm and cost calculation for simple Hash Join. (6.5)
- (b) Write short notes on: (a) Vendor -Specific Security (b) Multilevel Security. (6)
- Q7 (a) What is a data warehouse? Describe the process of ETL for a data warehouse. (6)
- (b) What are data marts? Briefly discuss the method of creating the data marts.(6.5)

UNIT-IV

- Q8 (a) How is the check pointing information used in the recovery operation following a system crash in DBMS. Explain. (6.5)
- (b) What are advantages of normalized relations over the un-normalized relations? (6)
- Q9 (a) What do you understand by timestamp based protocol. Discuss mutli- version scheme also. (6.5)
- (b) Write a short notes on : (a) Serializability (b)Recoverability (c) Data Pump. (6)
