Computer Science & Engineering (CBCS And Old Pattern) M.Tech. Second Semester Old+CBCS (C.B.S. Pattern)

# PCSS22 - Advanced Databases

P. Pages : 1 **GUG/W/18/10993**

Time : Three Hours * 3 1 1 8 * Max. Marks : 70

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Notes : 1. All questions carry equal marks.
2. Answer **any five** questions.
3. Due credit will be given to neatness and adequate dimensions.
4. Assume suitable data wherever necessary.

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| **1.** | a) | What is embedded SQL. Write its applications. | **7** |
| | b) | What is database connectivity? How it can be achieved. | **7** |
| **2.** | a) | Explain Query processing with the help of diagram. What are the objectives of query processing? | **7** |
| | b) | Explain the functionality of OLAP and give detail architectural diagram of OLAP. | **7** |
| **3.** | a) | What are the benefits of the conceptual data models. | **6** |
| | b) | What is multidimensional OLAP and what are data cube structures in MOLAP. | **8** |
| **4.** | a) | What is a transaction? Explain distributed and nested transactions. | **8** |
| | b) | What is relational algebra query tree. | **6** |
| **5.** | a) | Write a short note on secure RPC. | **7** |
| | b) | What is Relational algebra? Discuss the reasons for converting SQL queries into relational algebra queries before query optimization is done. | **7** |
| **6.** | a) | What is the objective of a query simplifier? What are the idempotence rules used by query simplifier? Give an example. | **7** |
| | b) | Explain database security? Discuss the two types of data encryption mechanisms used in database security. | **7** |
| **7.** | a) | What is statistical database? Discuss the problems of statistical database security. | **8** |
| | b) | Explain the use of audit trail. | **6** |
| **8.** | a) | Discuss the Advanced features of E-R approach. | **8** |
| | b) | Write short notes on:<br>i) Materialization. ii) Pipelining. | **6** |

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