M.Tech(with Credits)-Regular-Semester 2012-CAD/CAM Sem II

MTCC-1002 - Product Data Management

P. Pages : 1 **GUG/W/16/3938**

Time : Three Hours * 4 7 6 7 * Max. Marks : 70

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.
5. Illustrate your answers wherever necessary with the help of neat sketches.
6. Use of non-programmable calculation is allowed.

1. a) What is DBMS? What are the various models for DBMS. What are the advantages of Relational Database model over other models? **8**

b) Describe various types of attributes with suitable examples. **6**

2. a) What are the Responsibilities of DBA? Explain each in detail who are the other users accessing the database and what are their functions. **8**

b) Explain the pitfalls in database design. **6**

3. a) Explain the concept of Aggregation and generalization. **8**

b) Distinguish between assertions and triggers, give example of each. **6**

4. a) Explain in detail the six basic relational algebra operation with suitable examples. **8**

b) With suitable example. Explain the use of following keywords in SQL. **6**
i) HAVING ii) GROUP BY
iii) SOME iv) ALL

5. A machine shop of batch production firm has various machines on which different jobs are processed by different operators. Each job is tested by QC department and delivered to the customers with UID. Identify the entities and relationship. Draw E-R diagram, reduce the same to tables. **14**

6. a) What is normalization? Why is it done? Explain 1NF, 2NF, 3NF and BCNF with suitable examples for each. **8**

b) What is lossy join? State and explain condition for lossless join composition giving example. **6**

7. a) What is 'B' tree index? Explain the structure of 'B' tree index. Discuss the procedure for INSERT and REMOVE for the index values. **8**

b) Discuss the security and integrity issue in DBMS system. **6**

8. Write short notes on **any two**. **14**
a) Hashing techniques. b) Distribute database systems
c) Set operations d) DKNF
e) Special and Geographical Database.

****