



K20P 1253

Reg. No. :

Name :

V Semester Master of Computer Application (M.C.A.)/M.C.A. (Lateral Entry) Degree (CBSS – Reg./Suppl. (Including Mercy Chance)/Imp.)
Examination, November 2020
(2014 Admission Onwards)

MCA 5C26 : ADVANCED DATABASE MANAGEMENT SYSTEMS

Time : 3 Hours

Max. Marks : 80

SECTION –A

Answer **any ten** questions. **Each** carries **three** marks :

1. What is the need of data model in DBMS and give its classification.
2. List the different SQL functions for string conversions.
3. Quote an example for an index on multiple keys of a relation schema.
4. What is query processing ? Give example.
5. Define sorting operation. Give example.
6. List out the various properties of transaction.
7. Define deadlock handling.
8. Differentiate between transaction isolation and atomicity.
9. Provide any three difficulties that database designer has to face when implementing a distributed database system.
10. Differentiate between a Homogeneous Distributed Database and a Heterogeneous Distributed Database.
11. List out the various array and multi-set types used in SQL.
12. What are the uses of table inheritance ? (10×3=30)

P.T.O.



SECTION – B

Answer **all** questions. **Each** carries **ten** marks :

13. a) What is a trigger ? How to create it ? Discuss various types of triggers. 10

OR

b) Is B+ tree, a multi-level indexing ? How does it differ from B – tree ?
Explain. 10

14. a) Explain in detail the concept of query optimization with suitable example. 10

OR

b) Explain the concept of join operation and evaluation of expressions with
example. 10

15. a) Explain the various transaction models in detail. 10

OR

b) Explain in detail the recovery algorithm with suitable example. 10

16. a) Briefly discuss why data fragmentation could be useful in such distributed
database systems, and explain each of the following fragmentation rules:

i) Completeness

ii) Reconstruction

iii) Disjointness. 10

OR

b) Explain the concept of concurrency control in distributed databases with
suitable example. 10

17. a) Explain in detail the important features of information retrieval in object-based
database. 10

OR

b) How to implement the O-R features ? Explain the concept of object-relational
mapping in detail. 10

(5×10=50)