

Roll No.

Total Pages : 3

DMCA/M-20

10634

ADVANCE IN DATABASE

Paper–CS-DE-34

Time Allowed : 3 Hours]

[Maximum Marks : 80

Note : Attempt **five** questions in all, selecting at least **one** question from each Unit. Question No. **1** is compulsory. All questions carry equal marks.

Compulsory Question

1. Explain the following : 2×8=16
- (a) What are Attributes? Write about complex attribute.
 - (b) What is meant by super class and sub class in EER model?
 - (c) Define set, list and array constructor.
 - (d) Write a note on Query execution plan.
 - (e) What are Active rules?
 - (f) What is Prolog?
 - (g) How do you analyse Siblings in Class hierarchy?
 - (h) “Is big data a big failure?” Comment.

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UNIT-I

2. (a) Define Database schema and Database instance? Draw a neat sketch and explain three schema architecture of DBMS as proposed by ANSI-SPARC. 8
- (b) What are the disadvantages or limitations of an ER Model, which led to the development of EER model? 8
3. (a) Write a detailed note on Attribute inheritance, Multiple inheritance and Null constraint. 8
- (b) What is specialization and generalization in EER modeling? Discuss constraints on specialization and generalization. 8

UNIT-II

4. (a) How is persistence handled in Typical object oriented Database system? 8
- (b) Write a detailed note on type Hierarchy and Inheritance. 8
5. (a) Discuss the main heuristics that are applied during Query optimization to improve the processing of the query. 8

- (b) Explain the additional Query tuning guidelines with examples. 8

UNIT-III

- 6. (a) List the problems of Parallel processing. Draw and explain shared nothing architecture of parallel databases. 8
- (b) What is Data allocation and replication? Why is data replication useful in DDBMS? 8
- 7. (a) List the requirements of Spatial database. Explain different types of spatial queries. 8
- (b) What is XML database? Discuss data types which support to XML schema. 8

UNIT-IV

- 8. (a) What are the danger signs of an overly simple Ontology? 8
- (b) What do you understand by Versioning? Discuss data and software versioning. 8
- 9. (a) Highlight the problems involved in Big Data. Discuss the stepwise approach for Big Data. 8
- (b) Explain Economic, Social and Ethical issues in Big Data. 8