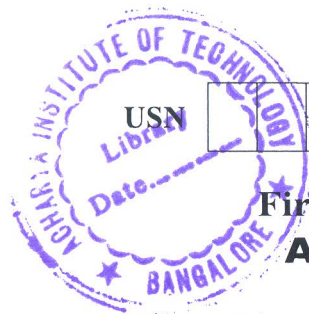


CBCS SCHEME

18SCS13



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First Semester M.Tech. Degree Examination, June/July 2019 Advances in Database Management Systems

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. List and describe the different Categories of Relational Model Constraints on Databases. (10 Marks)
- b. With examples for each, explain the usage of Insert, Delete and Update Operations with Violation Constraints. (10 Marks)

OR

- 2 a. Explain the following object oriented concepts with examples for each:
(i) Abstract Data Types (ii) Encapsulation
(iii) Inheritance (iv) Polymorphism (10 Marks)
- b. Define project identifier. Explain the characteristics of OID. (10 Marks)

Module-2

- 3 a. What is the need of Object Definition Language (ODL)? With a neat diagram, describe the Graphical Notations for representing ODL of University Database. (10 Marks)
- b. With examples, explain any five Object Query Language (OQL) queries of ODMG model. (10 Marks)

OR

- 4 a. Describe the steps for mapping EER Schema to an ODB Schema. (10 Marks)
- b. Explain the differences between Conceptual design of ODB and RDB. (10 Marks)

Module-3

- 5 a. List and explain the stages involved in Processing of Distributed Database Query. (10 Marks)
- b. Define Distributed Catalog. Explain the three different Catalog Management Schemes. (10 Marks)

OR

- 6 a. Define Parallel Database Systems. List and explain the different physical architectures for parallel Database Systems. (10 Marks)
- b. Explain the Data Partitioning and Parallelizing Sequential operator approach for Parallel Query evaluation. (10 Marks)

Module-4

- 7 a. Describe the following implementation techniques of OLAP with examples for each:
(i) Bitmap Indexes (ii) Join Indexes (10 Marks)
- b. List the main issues to consider in maintaining the materialized views. Describe the approaches for Selection and usage of views to materialize as well as answer a query. (10 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

OR

- 8 a. Define Support and Confidence. Describe the importance of Association rules and ISA Hierarchies with example. (10 Marks)
- b. Define cluster. Describe an algorithm to find all the sequence similar to a query sequence with an example. (10 Marks)

Module-5

- 9 a. List and describe the three components of ECA model of active databases. (05 Marks)
- b. Define Rule Consideration. Explain the three possibilities of rule consideration. (05 Marks)
- c. Describe the following with example for each:
- i) Temporal Database
 - ii) Spatial Database. (10 Marks)

OR

- 10 a. Define Multimedia data bases. Describe the Automatic analysis of images and object recognition in images. (10 Marks)
- b. Describe the following with example for each:
- i) Mobile Database
 - ii) Geographic Information Systems (10 Marks)
