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20SCS13

First Semester M.Tech. Degree Examination, July/August 2022
Advanced Database Management System

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. Discuss the Entity Integrity and Referential Integrity constraints. Why each one is considered important? (10 Marks)
b. Explain the violation of Integrity constraint in each of the three types of update operations. (10 Marks)

OR

- 2 a. What is an object Identifier? What primary characteristics should an OID possess? What are its advantages and disadvantages? (10 Marks)
b. Explain how object persistence is specified using naming and reachability. (10 Marks)

Module-2

- 3 a. What is distributed database? How is it different from multiprocessor systems? Discuss the advantages of distributed databases. (10 Marks)
b. With neat sketches, explain schema architecture and component architecture of distributed databases. (10 Marks)

OR

- 4 a. What is Hashing? Explain internal hashing techniques. (10 Marks)
b. Describe the characteristics of secondary storage systems in the field of Distributed Databases. (10 Marks)

Module-3

- 5 a. With the aid of a neat sketch, explain CAP theorem. (10 Marks)
b. Classify the types of NOSQL database. (10 Marks)

OR

- 6 a. Explain in detail Hadoop Distributed File System Architecture. (10 Marks)
b. Explain Mango DB model with an example. (10 Marks)

Module-4

- 7 a. What is Spatial Database? What are the common data types and models for storing spatial data? Categorize types of spatial operators. (10 Marks)
b. Explain the generalized model for active databases and Oracle triggers. (10 Marks)

OR

- 8 a. Tabulate the differences between Databases and Information Retrieval systems. (10 Marks)
b. How do you incorporate time in Relational Database using tuple versioning? (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.

Module-5

- 9 a. Explain with an example, Apriori algorithm for finding frequent (Large) Item sets. (10 Marks)
b. Explain Classification and Clustering with respect to Data Mining. Explain K – means clustering algorithm. (10 Marks)

OR

- 10 a. What is Data Mining? Explain the types of knowledge discovered during Data Mining. (10 Marks)
b. Define Data Warehouse. Explain the following terms with respect to data warehousing :
i) Pivoting ii) Roll up display
iii) Drill down display iv) Dimensions and Fact table. (10 Marks)
