ACHARYA INSTITUTE OF TECHNOLOGY
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CBCS SCHEME

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18SCS13

First Semester M.Tech. Degree Examination, Dec.2019/Jan.2020
Advances in Database Management System

Time: 3 hrs. Max. Marks: 100

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

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-1

1 a. What is data integrity? Explain the types of integrity constraints. **(10 Marks)**

b. Explain the object definition language (ODL) with an example. **(10 Marks)**

OR

2 a. Discuss the basic types of update operations on relations. **(07 Marks)**

b. List and explain the three categories of constraints in database. **(03 Marks)**

c. What is the need for object oriented databases? Explain the features of object oriented database. **(10 Marks)**

Module-2

3 a. What is Hashing? Explain the Internal Hashing technique. **(10 Marks)**

b. Describe the characteristics of secondary storage devices. **(10 Marks)**

OR

4 a. What do you understand by distributed databases? Give the various advantages and disadvantages of distributed database management systems. **(10 Marks)**

b. Write short notes on:
(i) Concurrency control
(ii) Recoverability **(10 Marks)**

Module-3

5 a. Discuss the characteristics of many NOSQL and explain how these systems are differs from traditional SQL systems. **(10 Marks)**

b. What is mongoDB model? Explain with an example. **(10 Marks)**

OR

6 a. Explain the Hadoop Distributed File System (HDFS) with respect to architecture and HDFS preliminaries. **(10 Marks)**

b. What is Bigdata? Explain with respect to volume, velocity, variety and veracity. **(10 Marks)**

Module-4

7 a. Write short notes on:
(i) Multimedia databases
(ii) Deductive database **(10 Marks)**

b. What is spatial database? Explain with the help of data types, spatial operators and spatial queries. **(10 Marks)**

OR

8 a. Explain the generalized model for active databases and oracle triggers. **(10 Marks)**
b. Explain the techniques adopted in web usage analysis. **(10 Marks)**

Module-5

9 a. What is the objective of data mining? What is the importance of associative rules for data mining? Explain any one data mining algorithm. **(10 Marks)**
b. Explain the clustering and classification techniques in data mining. **(10 Marks)**

OR

10 a. What is the use of data warehouse? Discuss the architecture of data warehouse and its functionality in detail. **(10 Marks)**
b. State and explain the types of knowledge discovered during data mining. **(05 Marks)**
c. Discuss the applications of data mining. **(05 Marks)**

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