CBCS SCHEME

USN | | | | | | | | | | |

20SCS/SDS13

First Semester M.Tech. Degree Examination, Feb./Mar. 2022
Advanced 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. Explain the 3 basic constructors used in ODB's with an example. **(10 Marks)**

b. With relevant examples, explain the different operations which load to constraint violation. **(10 Marks)**

OR

2 a. Consider an example university database and write the graphical object database schema for it. **(10 Marks)**

b. Mention the steps used in mapping an EER schema to an ODB schema. **(10 Marks)**

Module-2

3 a. Explain some of the commonly used techniques to make accessing data more efficiently on HDDs. **(10 Marks)**

b. Discuss on the different hashing techniques that allow dynamic file expansion. **(10 Marks)**

OR

4 a. Compare and contrast schema architecture of distributed databases and federated database schema architecture. **(10 Marks)**

b. Discuss on data fragmentation and sharding in distributed databases. **(10 Marks)**

Module-3

5 a. Explain the NOSQL characteristics related to distributed databases and distributed systems. **(10 Marks)**

b. With a diagram depicting the MapReduce execution, explain the MapReduce programming model. **(10 Marks)**

OR

6 a. Explain replication and shardign in MangoDB. **(10 Marks)**

b. Describe the architecture of HDFS along with its highlights. **(10 Marks)**

Module-4

7 a. List the 3 basic forms of spatial data and explain them in detail. **(10 Marks)**

b. Explain Inverted indexing with an example. **(10 Marks)**

OR

8 a. List the 3 major spatial data mining techniques and explain them in detail. **(10 Marks)**

b. Discuss on the recent trends in information retrieval. **(10 Marks)**

Module-5

9 a. Give the Apriori algorithm for finding frequent itemsets. **(10 Marks)**

b. With a diagram of general architecture of data warehouse, explain the characteristics of data warehouse. **(10 Marks)**

OR

10 a. Give the K-means clustering algorithm. **(10 Marks)**

b. Mention the steps involved in acquisition of data for the warehouse. **(10 Marks)**

* * * * *