

Exam. Code : 105704
Subject Code : 1458

B.Sc. (Information Technology) 4th Semester
(Batch 2020-23)
DATABASE MANAGEMENT SYSTEM
Paper : I

Time Allowed—3 Hours] [Maximum Marks—75

Note :— Attempt *five* questions in all, selecting at least **one** question from each section. The **fifth** question may be attempted from any section. All questions carry equal marks.

SECTION—A

1. Define data independence. What are the various types of data independence ? How mapping is performed between different levels of database architecture ? Explain. 15
2. Discuss the following in detail with suitable examples: Primary key, Candidate key, Secondary key, Super key and Foreign key. 15

SECTION—B

3. What is Normalization ? Why we need to normalize databases ? What are its advantages ? Explain any three normal forms giving suitable examples. 15

4. What are the problems arising out of concurrent data access ? How concurrency is managed ? 15

SECTION—C

5. What do you mean by database security ? Describe various methods of providing database security. 15
6. What is a join operation ? What are various types of joins ? Discuss in detail giving suitable examples. 15

SECTION—D

7. What are Cursors ? Differentiate between implicit and explicit cursors. Give examples of Implicit and Explicit Cursors. 15
8. What is noSQL ? How it is different from SQL ? What are various noSQL databases ? Discuss in detail. 15