

## CHAPTER

## 1

Database System Concepts  
and Architecture

## Syllabus Topics

Introduction, Characteristics of Databases, File system v/s Database system, Data abstraction and Data Independence, DBMS system architecture, Database Administrator (DBA), Role of DBA, Self-learning Topics: Identify the types of Databases. ★

1.1	Introduction .....	1-2
1.2	Purpose of Database .....	1-2
1.2.1	File Processing System.....	1-2
1.2.2	Drawbacks of Traditional File Processing Systems .....	1-3
1.2.3	Characteristics of Database / Advantages of Database Management System .....	1-6
1.2.4	Disadvantages of Database Management System .....	1-7
1.2.5	File System v/s Database System .....	1-8
UQ. 1.2.6	Compare the traditional file system with Database. MU - May 19, Dec. 19, 5 Marks .....	1-8 ★
1.3	Applications of DBMS .....	1-9
1.4	Data Independence.....	1-10
UQ. 1.4.1	Explain Data Independence. MU - Dec. 17, 5 Marks .....	1-10
UQ. 1.4.2	Justify the term Data Independence. MU - Dec. 18, 5 Marks .....	1-10
1.5	DBMS System Architecture - Levels.....	1-11
UQ. 1.5.1	Draw and explain Database System Structure. MU - May 17, 10 Marks .....	1-11
1.5.1	Data Abstraction.....	1-12
1.5.2	Levels of Abstraction.....	1-12
1.5.3	DBMS Architecture / Components of DBMS.....	1-13
UQ. 1.5.2	Explain DBMS architecture. MU - May 18, 10 Marks .....	1-13
1.5.3(A)	Physical Data Model .....	1-15
1.6	Database Users and DBA.....	1-15
1.6.1	Database Users .....	1-15
UQ. 1.6.1	Discuss different users of Database system. MU - May 17, 5 Marks .....	1-15
UQ. 1.6.2	Explain in detail different database users. MU - Dec. 17, 10 Marks .....	1-15
1.6.2	Database Administrator (DBA).....	1-17
UQ. 1.6.3	Define the DBA. MU - May 19, 5 Marks .....	1-17
1.6.3	Role of DBA .....	1-17
UQ. 1.6.4	Explain Role of DBA. MU - May 18, May 19, Dec. 19, 5 Marks .....	1-17
1.7	Database Languages.....	1-18
1.7.1	Data Definition Language (DDL) .....	1-18
1.7.2	Data Manipulation Language (DML) .....	1-19
1.8	Self Learning Topics : Identify the Types of Databases .....	1-19
□	Chapter Ends.....	1-20