**Session 1: Appreciate Concept of Database Management System**

**1. What is a database?**

**Answer –** A database is an organized collection of data. Databases can store, retrieve and manage large amounts of data. The database stores the information in the form of a table.

**2. What is the purpose of a Database Management System?**

**Answer –** A database management system (DBMS) is a software package which manages and maintains data in a database. A DBMS enables several user application programs to access the same database at the same time. It enables organizations to easily create databases for a variety of purposes. A database is a comprehensive collection of data records, files, and other items.

**3. How is data organized in a database?**

**Answer –** There are two way to organized data in database –  
**a. Flat File –** It stores the data in a single table and it is suitable for small amounts of data.

**b. Relational –**It stores the data in a multiple table and all the tables are connected to each other using a common field with the help of relationships.  
  
**4. What do you mean by Database Servers?**

**Answer –** Database servers are powerful computers that store and manage data on a server. This type of server is dedicated to a single purpose and helps to hold the database and run only DBMS and related software.

**5. Give the Advantages of database?**

**Answer –** Advantages of database are –

**a. Reduce Data Redundancy –** When the same data set is stored in two or more locations, this is referred to as data redundancy. As a result, this helps in the protection of duplicate data in a database.

**b. Sharing of Data –** Databases can share the data with multiple users at a time. There are multiple levels of authorization to access the data, and as a result, the data can only be shared with those who are permitted.

**c. Data Integrity –** The term “data integrity” refers to the accuracy and consistency of the data in the database. Data integrity also refers to data safety.

**d. Data Security –** You know that data is very important, databases give privileges to authorized users and allow them to access the database using username and password.

**e. Privacy –** A database’s privacy rule says that only authorized users are permitted to access the database in accordance with its privacy constraints. For example – if you log in your Gmail account then you will see your email only, you will not see any other account email.

**f. Backup and Recovery –** Backup and recovery are handled automatically by the Database Management System.

**g. Data Consistency –** Data consistency ensures the modification in the data will be the same for all the users who are accessing the database. For example if you have registered a train ticket from IRCTC website then whatever changes are there it will be the same for all the users who are trying to reserve the ticket.

**6. What are the key features of a database?**

**Answer –** Some of the key features of database are –  
a. Multiple table can be store in a single database  
b. Database can share the data to multiple users  
c. Database can create backups automatically  
d. Database save storage space  
e. Large amount of data can be managed by database  
f. Each table in a database contains separate information  
g. Provides high level security

**7. What is RDBMS?**

**Answer –** RDBMS stands for Relational Database Management System is an upgraded version of DBMS, RDBMS stores the data in the form of a table. In RDBMS multiple tables can be linked together, and support multiple users to access the database.

**8. What different types of keys are available in RDBMS?**

**Answer –** The different keys available in RDBMS are –

**a. Primary Key (PK) –** A primary key is a unique value that identifies a row in a table. If the primary key is defined to any table column it means the duplication will be not allowed.

**b. Composite Primary Key –** When a primary key is applied to one or more columns in the same table is known as Composite Primary Key.

**c. Foreign Key (FK) –** By default columns are foreign key, foreign key points to the primary key of another table.