



CLASS - VIII COMPUTER SCIENCE NOTES JUNE

Chapter - 2 Introduction to MS Access 2016

I Short answer questions:

1. What is a database?

A database is an organized collection of structured information, or data, typically stored electronically in a computer system. A database is usually controlled by a database management system (DBMS).

2. List the various components of a database.

The components of relational database are

- Tables- Field, record
- Queries
- Forms
- Reports

3. What does an MS Access 2016 database contain?

The MS Access 2016 database is made up of the following seven major components:

- Tables
- Relationships
- Queries
- Forms
- Reports
- Macros
- Modules

4. What is a template database?

A sample template in Access is a file that, when opened, creates a complete database application. The database is ready to use and contains all the tables, forms, reports, queries, macros and relationships that you need to start working.

5. Write any two objectives of a database.

A database management system helps to:

- Maintain an organized collection of data such that it can be easily accessed, managed, updated and interpreted according to requirements.
- Overcome the drawbacks of file systems, such as data redundancy, data inconsistency, multiple file formats, data duplication across files, difficulty in data access, etc.

II Long answer questions:

1. Explain DBMS and RDBMS. How can you say that Access is a database management software?

Database management is the creation, modification, deletion, and addition of data in a database. The software that performs these functions is called a database management system (DBMS). MS Access and MySQL are examples of DBMS software.

Relational Database: Data in this database is stored in a number of related tables. The relationship between these tables allows the user to join the tables to retrieve data simultaneously from all the tables. MS Access, Oracle and SQL are examples of this type of database.

MS Access is a Relational Database Management System (RDBMS). A relational database means a database in which you group the data into one or more tables which can be then related to one another by using fields or fields that are common to each table. In a relational database, two or more tables are linked together by a common field or column. When you make a query, the RDBMS combines the linked details temporarily and presents it in the form of a query.

MS Access 2016 is the database application from the Microsoft Office 2016 Suite of applications. It is a powerful personal database and data manipulation tool that is also widely used in many small businesses.

The MS Access 2016 database is made up of the following seven major components:

- Tables
- Relationships
- Queries
- Forms
- Reports
- Macros
- Modules

2. What is MS Access 2016? Write the steps to start MS Access 2016.

MS Access 2016 is the database application from the Microsoft Office 2016 Suite of applications. It is a powerful personal database and data manipulation tool that is also widely used in many small businesses.

The MS Access 2016 database is made up of the following seven major components:

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- Queries
- Forms
- Reports
- Macros
- Modules

Starting MS Access 2016

Step 1: Click on the Start button. The Start menu appears

Step 2: Scroll to Access.

Step 3: Click on Access.

The Microsoft Access 2016 window appears.

Creating a Blank Database

When you open Access 2016, you see the MS Office Backstage view, which displays information about the current database, creating a new database, opening an existing database, and viewing various sample templates.

Follow these steps to create a new database:

Step 1: Click on the Blank database option.

Step 2: Enter a name for the database in the file Name text box.

Step 3: Click on Create.

3. List the advantages of DBMS.

► **Reduction in Data Redundancy:** DBMS helps in the reduction of duplication of data. If two departments of a hospital require the names of patients, they can access it on a single database. The database contains all information of all patients. The finance department needs details of the patient fee information. The doctors may look for patient health records, etc. This eliminates data duplication leading to saving in expenses and storage space.

► **Improved Data Integrity:** As the data is stored centrally, and all the users access the data simultaneously in a controlled way, there is little chance of accidental data deletion or simultaneous updates. For example, the chances of the same patient having a different address in different files are reduced.

► **Increased Data Security:** In DBMS, access to sensitive data is given only to authorized users. Therefore DBMS provide data security.

► **Organized Data:** the unorganized raw data is organized and sorted in a DBMS. This makes it easy to search, edit, add or delete large amounts of data easily.

► **Quick Retrieval:** DBMS helps in retrieving data from a large database based on the user's query.

4. Write the steps to enter data in an MS Access 2016 database using templates.

After creating the database the next step is to enter the data. Follow the given steps to enter data into a template:

Step 1: When you open the template, you will see a message: Security Warning "Some active content has been disabled. Click for more details."

Step 2: Click on Enable Content. Now, you can start typing data in the database.

Step 3: Click on New. A Student Details dialog box will appear. Type the data in the required fields using the keyboard.

Step 4: Click on Save and New to fill in another student's details.

Step 5: After the details of all the students are filled in, click on Close.

Now, the entered data appears in the datasheet. Once you complete entering data into your datasheet, you need to save it.

Step 6: Click on the File tab. The Backstage view will appear.

Step 7: Click on Save. The entered data is saved.

5. Write the steps to close MS Access.

Follow the given steps to close the database and exit MS Access 2016.

Step 1: Click on the File tab. The Backstage view will appear.

Step 2: Click on the Close option. The database will close and the blank Access window will appear.

Step 3: Click on the Close button X.
MS Access 2016 window will close.

6. What are the advantages and disadvantages of the two types of databases?

► **Flat File Database:** In this database, all the data is stored in a single table. The number of fields is small and fixed and they do not have any defined relationships between them. The database file will hold just one table. Ms Excel is an example of a flat- file database.

Advantages: It is simple to create, easy to use and inexpensive.

Disadvantages: It results in increased inconsistency and redundancy in the database.

► **Relational Database:** Data in this database is stored in a number of related tables. The relationship between these tables allows the user to join the tables to retrieve data simultaneously from all the tables. MS Access, Oracle and SQL are examples of this type of database.

Advantages: It helps in reducing data redundancy and maintaining consistency and integrity of data.

Disadvantages: Being complex to design, it takes time to construct a relational database.

III Define the following:

1. Tables:

A table can be defined as a two-dimensional representation of data in the form of rows and columns known as records and fields, respectively.

2. Record:

Number of fields together form records. A record can be defined as a row in a table. Together, a set of records with the same fields form a table.

3. Field:

The field is the basic unit of data in a database. A field stores a single piece of data/information of a particular type.

4. Database:

A database is an organized collection of structured information, or data, typically stored electronically in a computer system. A database is usually controlled by a database management system (DBMS).

5. Query:

A query is a request for data or information from a database table or combination of tables. To extract data, tables should have a relationship defined between them so that a record set which satisfies some condition(s) spanning some or all tables can be executed successfully. Queries can also be used to perform actions such as delete, update, etc., on the data.

6. Report:

If you want to display the selected data in printable formats, reports are used. Reports collect the summarized data from queries or tables and organize it in a printable format.

7. Primary Key:

A primary key is one (or more columns) whose values uniquely identify every row in a table. The value in the primary field is different for every record and thus helps to identify records uniquely. For example, in a table containing details of students of Class VIII, section B, the column Admission Number behaves as the primary key because every student has a unique admission number.

8. Alternate Key:

In a table, there may be more than one field that uniquely identifies a record. All such fields are called candidate keys. Only one of the candidate keys is selected as the primary key of a table. All the other candidate keys are called alternate keys.

9. Foreign Key:

When you use the primary key of one table in another table to establish a relation, then the primary key of one table is the foreign key in the other table.

Chapter - 2 QUERIES, FORMS AND REPORTS IN ACCESS

SHORT ANSWERS

I. SHORT ANSWER QUESTION:

1. Define Queries.

A Query can be defined as a database object which is
Used to extract data from one or more tables depending on the given criteria.

2. What is Design Grid?

Design grid is present in the lower portion of the window which contains columns, where you can set up the fields.

3. List the different types of forms?

Forms are of two types

1. Bound form
2. Unbound form

4. What are the different reports views?

The different report views are (1) Report view, (2) Print preview (3) Layout view (4) Design view.

5. What is a Report?

Reports offer a way to view, format and summarize the information in your database. Reports can be used to view or print data online.

II. LONG ANSWERS QUESTION:

1. Write the steps to create a Query?

Step1: Click on the create tab. Select very design option from the queries group.

Step 2: The Query Design window appears with Area and design Grid.

Step 3: Select the tables from the Add Tables pane on the right side of the screen.

Step 4: Double click on the Table name.

Step 5: The selected table will appear in the object relationship.

Step 6: Below the design area the following elements appear.
(element, field, table, show, sort, criteria, or)

Step 7: Select the desired table field.

Step 8: Click on the Query Design tab.

Step 9: Then click on the Run button to run the Query.

Step 10: Query data will appear

Step 11: Save the Query by ctrl+s

Step 12: A save as dialog box appears.

Step 13: Type a name and click on ok

Step 14: The query name appears in the Navigation pane.

2. Explain the difference between Reports and forms.

Reports: Reports offer a way to view, format and summarize the information in your database. Reports can be used to view or print data online. For example, you can create a simple report of phone numbers for all of your contacts, or a summary report on the total sales across different regions and time periods. Your report can be based on either a table or a query.

Access 2016 provides four report views:

- **Report view:** It is used to enter and edit data in the report
- **Print Preview:** It is used to preview the report before printing.
- **Layout View:** This is the default view of a report. It is used to change the appearance and style of the report.
- **Design View:** It is used to design the report.

Forms: The form is a more user friendly object of a database. It appears in a rectangular window. It contains numerous fields, or spaces to enter data. Each field holds a field label so that any user who views the form, get an idea of its contents. In access, a form is a database object which is used to create a user interface for a database application. Forms are of two types:

- **Bound :** It is directly connected to a data source as a table or query and can be used to enter, edit or display data from the data source.
- **Un bound :** It is not linked directly to the data source but contains command buttons, labels or other controls that you need to operate your application. Access provides different form views as given below:
 - **Form view:** It is used to enter, edit and view data
 - **Design view:** It is used to provide structure to the form, such as setting header, detail and footer section, etc
 - **Layout view:** It is used to alter the appearance of your form like the size of various controls on the form.

3. Distinguish between the Design Area and Design Grid of the query design window.

Design Area: Displays the fields, tables and queries that you may want to use in the query

Design Grid: Contains columns where you can set up the fields

4. Write down the steps to create a form in Access.

Step 1: Select a table or query from the Navigation Pane.

Step 2: Click on the create tab.

Step 3 : A new form opens in the Layout view. On creating a form, three new tabs appear on the ribbon-from layout design, Arrange and format.

Step 4: Click on Home->view->form view. You can enter or update data.

Step 5: Use the Record navigation bar to move through the records in the Form. After entering and updating records save your work.

5. Write down the steps to create a report in Access.

Step 1: Click on the create tab. Select the report option from the reports group.

Step 2: A report opens in the layout view.

Step 3: Edit the data in the report in the report by switching it to report view.

Step 4: Click on the save button after applying changes. To print a report, follow the given steps.

- Click on view->print preview option.
- The report appears in a print format. The print preview tab appears in the ribbon
- Change the margins,paper size,page layout,etc.
- Choose to print the report to another application software type such as an excel workbook, a word document, a PDF file etc.,
Click on the close print preview button.