Chapter-2 Class-viii

Introduction to Microsoft Access 2013

D. Answer the following questions.

1. Define the following:
   i)Table ii) Database iii) DBMS
   i)Table-They are used to store data in the form of rows and columns. A table is also referred to as a relation.
   ii) Database - An organized collection of related data.
   iii)DBMS- A Database Management System is a software program that enable Creation and management of database.

2. What are the advantages of using a DBMS?
   •DBMS stores data at a center place.
   •DBMS prevents data duplication.
   •DBMS can be based on different data models such as network, hierarchical and relational.
   •Improved Data Access to users.
   •Improved Data Security.

3. Distinguish between the following pairs.
   a) Record and Field
   Record- The rows in a table are know as records. A record stores complete information about an object or an item. (Draw Table 2.1) For example, Table Employee has four records.

   b) Number and Autonumber data type
   Number- The fields with this data type can store numbers.
   Autonumber- The fields with this data type store integers that are incremented automatically when a new row or records is added to a table.

   c)Short text and long text data type
   Short text- The fields with Short text data type can store text or a combination of text and numbers such as names, address and postal codes. The fields with this data type can have a maximum of 255 characters.
   Long text- The fields with Long text data type can store lengthy texts, that is, up to 65,536 characters. It can be used for storing detailed information such as synopsis of a book or a patient's medical history.

   d) Validation rule and validation text
   Validation rule- This property is used to put conditions on the data that can be entered in a field. You can't enter a value if it is not according to the validation rule.

Validation text- This property is used to display an error message when the validation rule gets violated.

4. What is primary key? How do we set primary key in MS Access?
   A primary key is a field or combination of fields that uniquely identities the records in a table. A primary key field can't have repetitive values and can't be left blanks .
   In (Draw Table 2.1), Eno field can be made the primary key as every employee has a unique employee number.

5. What are the two areas of the design view of a table?
   In the Design view of the table, you can enter the field names, their data type and description. You can also set the field properties. The Design view window is divided into two panes-
   - (Draw fig.2.10)

   1) Field Grid Pane- Field Grid Pane- us used for entering field names and their data types. You can also give an optional description about each field in this pane.

   2) Field Properties Pane- Field Properties Pane- is used to set properties for the fields in the table.

Networking Concepts

C. Answer the following questions.

a) Define the term 'computer network'. What are its advantages?

A computer network consists of two or more computers that are links in order to share resources such as printers, exchange files and allow communication.

Advantages of computer network

- Helps you to connect with multiple computers together to send and receive information when accessing the network.
- Helps you to share printers, scanners, and email.
- Helps you to share information at very fast speed
- Electronic communication is more efficient and less expensive than without the network.

b) State the types of computer networks based on the geographical area covered by them.

The following are the types of networks based on the geographical area covered or scale of the network.

- Personal Area Network (PAN): A PAN is a computer network organised around a person. It is used for communication between devices such as phones, personal digital assistants, printers and laptops that are in closed proximity. (Draw fig.1.1 from book)
- Local Area Network (LAN): A LAN is a computer network that is limited to a local area such as a laboratory, a school or an office building. (Draw fig1.2)
- Campus Area Network (CAN): A CAN is a computer network that connects multiple LAN in a limited geographical area. It can be set up by a college, company and so on. (Draw fig.1.3)
- Metropolitan Area Network (MAN): A MAN is a computer network that usually covers a larger area than a LAN. For example, a network that connects two offices in a city, a neighbourhood area and so on. (Draw fig.1.4)
- Wide Area Network (WAN): A WAN is a computer network that spans a wide geographical area. A WAN is may be spread across cities, countries and continents. (Draw fig.1.5)

c) Write a note on twisted pair and coaxial cable.

Twisted pair- The twisted pair cable is often used in two or more pairs, all within a single cable. Twisted pair cabling comes in two varieties- shielded and unshielded. UTP cable is the most commonly used cable in computer networking. (Draw fig.1.11 & 1.12)

Coaxial cable- An electrical cable with a conductor at a center. The inner conductor is surrounded by a tubular insulating layer. The insulating layer is surrounded by a conductive layer called the shield which is finally covered with a thin insulating layer on the outside.

d) Give the advantages of optical fibre cables.

A cable that consists of a centre glass core surrounded by several layers of protective material. It transmits data in the form of light rather than electronic signals. It also has capability to carry data at a very high speed. (Draw fig. 1.14)

e) What is a bus topology?

In bus topology, all the computers are connected to a single cable called the bus. The transmission of data from any computer travels through the length of the bus in both the directions and can be received by all other computers on the network. The advantage of the bus topology is that it is quite easy to set up. (Draw fig.1.6)

f) How is a hub different from a switch?

Hub- A hub is a device that is used to computers in a network. In a hub, when one computer sends data on the network, the hub simply forwards the packets to all the other computers connected to it. (Draw fig.1.25 & 1.26)

Switch- A switch is a device that is also used to connect computers in a network. Switch is a more intelligent device than a hub. Unlike a hub, the switch sends the incoming data to the desired destination only. It records the address of all the computers connected to it. (Draw fig.1.27)

g) Discuss some common threats to network security.

Files can be shared between the computers on a network. This makes a computer vulnerable to attacks by viruses, worms, Trojan horses Data Theft and so on that can easily spread because of the underlying network.

h) What is a firewall?

It can be implemented as hardware device or software that prevents unauthorised access to the network. (Draw fig.1.33)

i) How is Microwave transmission different from Radiowave transmission?

Microwave Transmission - Microwave communications are unidirectional. They can be used for terrestrial communication or for satellite communication.

Radiowave Transmission- Radiowave communications are omni-directional, which means that they travel in all directions from the source, so that the transmitter and receiver do not have to be carefully aligned physically. Radio waves are easy to generate, can travel long distances and penetrate through buildings easily.