# INDIAN SCHOOL AL WADI AL KABIR

| Class: X | Department: Computer Science |
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| WORKSHEET 1<br>PART B UNIT 3 | **INFORMATION TECHNOLOGY (402)**<br>**Database Management System Using LibreOffice Base**<br>**Introduction to Database Management System** |

## 1 mark Questions

1. Which of the following can not be considered as an example of a database?
   (a) Dictionary (b) Telephone directory (c**)** Marks Register (d**) Newspaper**

2. Which of the following is NOT a DBMS?
   (a) MS Access (b) Open Office Base (**c) MS Excel** (d) MySQL

3. DBMS stands for _____.
   (a) Data and Books Management System (b**) Database Management System**
   (c) Duplicate Books Management System (d) Data Management Multi System

4. Which of the following data models sets a relation between the two or more tables?
   (**a) Relational Data Model** (b) Network Data Model
   (c) Hierarchical Data Model (d) Connection Data Model

5. The details associated with an entity are called _____.
   (a) Table (b**) Attributes** (c) Records (d) Primary Key

6. _____ is a real world object about which information is to be stored in a database.
   (a) **Entity** (b) Attributes (c) Records (d) Primary Key

7. Database servers are referred to as _____.
   a. Front-ends b**. Back-ends** c. Clients d. Model

8. A table is a set of data elements that is organized using a model of vertical _____and horizontal _____.
   a. Rows, Tables b. **Columns, Rows** c. Rows, Columns d. Forms, Reports

9. Akshat wants to store a huge amount information about his firm in a database. Which type of table organization would be most suitable for this purpose?
   a. Relational b. Flat File c. **Either Relational or Flat file** d. Hierarchical

10. Which of the following application is not appropriate to store data about ABC Bank customers?
    a. Open Office Base b. **Open Office Writer** c. MS Access d. MS Excel

11. Multiple copies of the same file leads to _____.
    a. Data Inconsistency b. **Data Redundancy** c. Data Consistency d. Foreign Key

12. Which of the following uniquely identifies a row in a table?
    **(a) Primary key** (b) Alternate key (c) Foreign key (d) Candidate key

13. A _____is a feature of a database using which we can enter data in a table in an easy and user friendly manner.
(a) query (b) report (c**) form** (d) field

14. A _____ is a question asked from a database.
(a) **query** (b) report (c) form (d) field

15. The output of a query may be displayed in the form of
(a) query (b) **report** (c) form (d) field

## 2 MARK QUESTIONS

16. Define the terms
(a) Database (b) Data redundancy (c) Forms

Ans: a) A database is a collection of logically related data items stored in an organized manner. The information being stored in a database can be added, modified, deleted or displayed according to the requirements of the user.
b) In the event of requiring the same data field in several tables the data field might get repeated in number of tables. This is called as data redundancy. This can be reduced by using DBMS tools.
c) A form is a feature of a database using which we can enter data in a table in an easy and user friendly manner. A form consists of text boxes, labels, radio buttons, list boxes, check boxes etc. that give a user friendly interface for entering data. The data entered through the forms is stored in tables

17. Give any four advantages of a DBMS.

• Organised Storage – The data in the database is stored in an organised manner, so that retrieval of the required data is fast and accurate.
• Data Analysis – A database helps in analysis of data based on certain criteria. It is easy to find out maximum or minimum value, average or mean using a database.
• Data Sharing – If the same data set is required for different applications then the database can be shared with other applications. Hence using a database means making once and using it repeatedly for multiple applications.
• Minimal Data Redundancy – In the event of requiring the same data field in several tables the data field might get repeated in number of tables. This is called as data redundancy. This can be reduced by using DBMS tools.
• Data Consistency – By minimising data redundancy, chances of inconsistent data being stored is reduced. For example, it should not happen that the name of the student is changed in one table and not in another. Such inconsistency is reduced by using a DBMS**.**
**(Write any four)**

18. Consider the following table and answer the questions that follow.

| Item No. | Name | Price | Quantity | Discount (in%) |
|---|---|---|---|---|
| A001 | Pen | 20 | 12 | 0 |
| A003 | Pencil | 15 | 5 | 1 |
| A010 | Notebook | 50 | 25 | 5 |

a) From the above table, identify the primary key. Justify your choice.
b) How many fields and how many records does the table have?

Ans:

a) The Item No: is the primary key as it is used to identify the particular row.

b) The record have 5 fields (columns) and 3 records (rows)
The fields are Item No:, Name, price, Quantity, Discount.

## 4 MARK QUESTIONS

19. Give one point of difference between
(a) Data and Information,
(b) Form and Query,
(c) Network and hierarchical data model

**Ans:**

**a) The raw facts constitute data**. The facts may be related to any person, place, activity or things. It may be stored in the form of text, graphics, audio or video. The examples of data are marks scored by the students, weights, prices, costs, numbers of items sold, employee names, product names, addresses, tax codes, registration, marks etc.

Information is the processed or organized form of data. If data is not correct or accurate, the information obtained by processing such data may not be correct. For example, marks obtained by students and their roll numbers is the data, while the report card/sheet is the information.

**b) Forms** – A form is a feature of a database using which we can enter data in a table in an easy and user-friendly manner. A form consists of text boxes, labels, radio buttons, list boxes, check boxes etc. that give a user-friendly interface for entering data. The data entered through the forms is stored in tables.

• **Queries** – A query is used to retrieve the desired information from the database. In simple terms, it is a question asked from the database. For example, if we want to view the names of only those students who have scored more than 50 marks, then we post a query. The data set matching the given criterion is retrieved from the table and displayed on the screen.

**c) Hierarchical Data Model :**In this model the data is organized into a tree like structure. The data is stored in the form of records. A record is a collection of fields and its data values. All these records are linked to each other at various levels, thereby forming a hierarchy.

**Network Data Model**

In this model, multiple records are linked to same master file. It is also considered as an inverted tree where master is present in the bottom of the tree and the branches contain information linked to the master.

20. Consider the table given below and answer the questions that follow

**Table: Library**

| Book_Id | Book Name | Author Name | Price | Publisher |
|---|---|---|---|---|
| F001 | Pride and Prejudice | Jane Austen | 550 | ABC |
| S004 | Amazing Astronomy | E. Shane | 1050 | ABC |
| **C005** | **IT and Mankind** | **MHA Diwaan** | **2500** | **HYM** |

(a) Name the fields in the given table.
(b) Which field should be made the primary key?
(c) Is there any alternate key in the table?
(d) How is primary key different from foreign key? Explain with example

Ans: a) Book_Id, Book Name, Author Name, Price, Publisher
b)Book_Id
c) Yes, Book Name also can be a primary key. So we can call it as alternate key if we are using Book_Id as primary key.

d) Foreign Key – If a field or a combination of fields of one table can be used to uniquely identify records of another table, then that particular field is known as the foreign key.
Primary Key – A primary key or simply a key is a field that uniquely identifies a row in a table.

**Student Registration Table**

| Enrolment Number | Student Name | Class | Date of Birth | Date of Admission |
|---|---|---|---|---|
| XX1234567890 | Dipak Kumar | 10 | 06/04/2004 | 25/06/2018 |
| XX1234567891 | Ram Kumar | 10 | 01/03/2004 | 24/06/2018 |

**Primary key:** Enrollment Number

**Student Marks Table**

| Roll Number | Maths | Science | Vocational | Enrolment Number |
|---|---|---|---|---|
| 44983 | 87 | 75 | 80 | XX1234567890 |
| 44990 | 74 | 45 | 75 | XX1234567891 |

**Primary key –** Roll Number, **Foreign key –** Enrollment Number

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