

BCM SCHOOL
BASANT AVENUE DUGRI ROAD LUDHIANA

ANSWER KEY

Information Technology (402) – Class X

Introduction to DBMS & Getting Started with LibreOffice Base

Total Marks: 30

SECTION A – MCQs

15 × 1 = 15 Marks

Question	Correct Answer	Explanation
Q1	b) Database	A database is an organised collection of related data.
Q2	b) Centralised data management	A DBMS provides a systematic way to manage related data from a centralised database.
Q3	c) Admission No.	Admission No. is intended to uniquely identify each student record.
Q4	b) Data inconsistency	Different values for the same student's address create inconsistency.
Q5	c) LibreOffice Base	Base is designed for creating and managing databases.
Q6	b) Query	A query retrieves records satisfying specified conditions.
Q7	a) Form	Forms provide a user-friendly interface for entering and viewing data.
Q8	c) Report	Reports present database information in a formatted, printable manner.
Q9	b) It identifies each record uniquely.	A primary key uniquely identifies each record in a table.
Q10	b) Create a query with a suitable condition	A query is efficient for filtering a large number of records.
Q11	a) Both A and R are true, and R correctly explains A.	A well-designed DBMS can organise shared data systematically and reduce unnecessary duplication.
Q12	b) To connect related information	Relationships connect tables

	stored in different tables	through related fields.
Q13	b) To make the database more organised and reduce redundancy	Splitting related information into appropriate tables can reduce unnecessary repetition.
Q14	a) Table structure	The table structure defines fields, data types and other properties before records are entered.
Q15	a) Better data security and controlled access	DBMSs can provide mechanisms for protecting and controlling access to data.

SECTION B – HIGHER-ORDER & COMPETENCY-BASED ANSWERS

15 Marks

Q16. Case-Based Question – 3 Marks

a) Any two:

- Data redundancy – the same information is entered repeatedly.
- Data inconsistency – changes made in one file may not be reflected in other files.
- Data maintenance becomes difficult and time-consuming.
- Greater possibility of errors.

b) A DBMS can store related information systematically, reduce unnecessary duplication, maintain consistency and make retrieval/update of information easier.

Marking: 2 marks for any two valid problems; 1 mark for explaining the DBMS solution.

Q17. Application-Based Question – 3 Marks

a) No. Putting all information into one table can cause unnecessary repetition, particularly because a student may issue multiple books and a book may be issued many times.

b) Suitable tables, for example:

- BOOK: Book ID, Book Name, Author
- STUDENT: Student ID, Student Name
- ISSUE: Issue ID/Book ID, Student ID, Issue Date, Return Date

Any two logically appropriate tables may be accepted.

c) Possible primary keys:

- BOOK → Book ID
- STUDENT → Student ID
- ISSUE → Issue ID (if created)

Marking: 1 mark each for parts (a), (b) and (c).

Q18. Problem-Solving Question – 3 Marks

a) Name cannot be used as a reliable primary key because names may be repeated. In the table, Aarav appears twice.

b) Admission No. should be used as the primary key because it is intended to uniquely identify each student.

c) A primary key should contain unique values for each record and should not be duplicated.

Marking: 1 mark each.

Q19. Competency-Based Question – 3 Marks

Correct mapping:

- Enter student information → FORM

Reason: A form provides a convenient, user-friendly interface for data entry.

- Find students scoring above 90% → QUERY

Reason: A query can filter records according to a specified condition.

- Prepare a printable award list → REPORT

Reason: A report presents selected information in a structured, printable format.

Marking: 1 mark for each correct object with appropriate justification.

Q20. HOTS Question – 3 Marks

- a) Relationships are required to connect related information stored in different tables and allow meaningful information to be retrieved across those tables.
- b) Relationships allow common information to be stored appropriately rather than repeatedly in every table. This can reduce redundancy and improve consistency and organisation.
- c) Example: Admission No. can be used to relate a Students table with a Fees table, provided it is the corresponding key/foreign-key field.