



B.K. BIRLA CENTRE FOR EDUCATION

**SARALA BIRLA GROUP OF SCHOOLS
A CBSE DAY-CUM-BOYS' RESIDENTIAL SCHOOL**



PERIODIC TEST I 2026-27

I.T – SET – 1 MARKING SCHEME/ ANSWER KEY

Class : XII

Date :

Admission No.:

Roll No.:

Duration : 1 Hrs

Max. Marks : 25

SECTION – A: Fill in the Blanks / MCQ / True or False

Q1. MCQ

- I. It inherently possesses a high implementation cost.
- II. No two tuples can be entirely identical within a single relation.
- III. Variable length
- IV. c) ALTER TABLE
- V. b) MAX()
- VI. b) It must contain strictly unique values and absolutely cannot be NULL.
- VII. A)Titles
- VIII. D) It is a crucial component demonstrating that the message was successfully received and comprehended.
- IX. A)UPDATE
- X. A)ON DELETE CASCADE

SECTION – B: Short Answer Questions (2 Marks Each)

Q2. What is Data? How is it different from Information?

Data is a collection of raw, unprocessed facts such as numbers, text, or images that have no meaning on their own (e.g., '98', 'Riya').

Information is data that has been organized, processed, and interpreted to provide meaningful insights (e.g., 'Riya scored 98 marks in Mathematics').

(1 mark for correct definition of Data + 1 mark for correct definition of Information with example.)

Q3. What is a Primary Key? State two rules.

A Primary Key is one or a group of columns that uniquely identifies every row in a table.

Rules: (i) It cannot contain NULL values. (ii) Every value must be unique — no two rows can have the same primary key value.

(1 mark for definition + 1 mark for any two correct rules.)

Q4. Foreign Key and Referential Integrity.

A Foreign Key is a column in a child table that refers to the Primary Key of a parent table, establishing a relationship between the two tables.

It maintains Referential Integrity by ensuring that a value in the child table's foreign key column must exist in the parent table's primary key, preventing orphaned records.

(1 mark for definition + 1 mark for explanation of Referential Integrity.)

Q5. NOT NULL constraint.

The NOT NULL constraint ensures that a column cannot be left empty; every row must have a value for that column.

Syntax: age INTEGER NOT NULL

(1 mark for correct explanation + 1 mark for correct syntax.)

Q6. Aggregate Functions.

Aggregate functions perform calculations on a set of values and return a single result.

(Any three of the following — 1 mark for naming + brief description, up to 2 marks total):

- COUNT() — Counts the number of rows or non-null values.
- SUM() — Calculates the total sum of values in a numeric column.
- MAX() — Returns the highest value in a column.
- MIN() — Returns the lowest value in a column.
- AVG() — Calculates the mean (average) of a numeric column.

Q7. Active Listening.

Active Listening means fully concentrating on what is being said with all senses, showing support, and demonstrating empathy, rather than just passively hearing.

Two non-verbal cues: (i) Maintaining steady eye contact. (ii) Nodding the head to show understanding.

(1 mark for definition + 1 mark for two correct non-verbal cues.)

Q8. RESPECT Acronym.

R – Remove distractions (e.g., turn off phone)

E – Eye contact (look at the speaker)

S – Show you are listening (through gestures / nodding)

P – Pay attention and focus

E – Empathise (feel the emotions of the speaker)

C – Clarify doubts (ask questions if needed)

T – Tune yourself to the timing (let the speaker finish before responding)

(½ mark per correct full form — any 4 correct full forms for full 2 marks.)

SECTION – C: Long Answer Questions (3 Marks Each)

Q9. DBMS and three operations.

A Database Management System (DBMS) is software that acts as a digital library, allowing users to efficiently structure, organize, store, and retrieve data. (1 mark)

Any three operations (1 mark each):

- Defining: Specifying data types, structures, and storage constraints for the database.
- Populating: Storing actual data into the database using SQL statements.
- Manipulating: Modifying, querying, and retrieving data; generating reports.
- Sharing: Allowing multiple users to access the database at the same time.
- Protecting: Safeguarding against unauthorized access and hardware/software failures.

Q10. Primary Key, Candidate Key, Super Key.

- Primary Key: One or a group of columns that uniquely identifies every row in a table. Rule: It cannot be NULL and every value must be unique. (1 mark)
- Candidate Key: Any column or set of columns that has the potential to act as a Primary Key (i.e., it is unique and not null). Rule: A table may have multiple candidate keys, but only one is chosen as the Primary Key. (1 mark)
- Super Key: A set of one or more columns that can uniquely identify rows in a table. Rule: A Primary Key is a minimal Super Key — a Super Key may include extra (non-essential) attributes. (1 mark)

Q11. Self-Referencing Table.

A self-referencing table contains a Foreign Key column that references the Primary Key of the same table, used to represent hierarchical structures like organizational charts. (1 mark)

Schema Diagram:

Table: SCHOOL_COMMITTEE

=====			
Column Name	Data Type	Key Type	
=====			
TEACHER_ID	INT	PRIMARY KEY (PK) <-	
FIRST_NAME	VARCHAR(50)		
LAST_NAME	VARCHAR(50)		
SENIOR_ID	INT	FOREIGN KEY (FK) --	
=====			

Explanation: SENIOR_ID acts as a Foreign Key pointing back to TEACHER_ID in the same table, representing that one teacher reports to a senior teacher. (1 mark for schema + 1 mark for explanation)

Q12. SQL Queries on Library table.

- a) SELECT Name, Price FROM Library WHERE Price > 300;
- b) UPDATE Library SET Price = 280 WHERE Bid = 'B03';
- c) SELECT * FROM Library ORDER BY Price DESC;

(1 mark for each correct SQL query.)

******* END OF ANSWER KEY – SET 1 *******