



B.K. BIRLA CENTRE FOR EDUCATION

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



PERIODIC TEST 2025-26

INFORMATION TECHNOLOGY – MARKING SCHEME (802)

Class : XII SCIENCE/COMMERCE/ARTS (SUBJECT-04)

Date : 01-07-2025

Admission No.:

Duration : 1 Hrs

Max. Marks : 25

Roll No.:

General Instructions:

Try to attempt all questions as per given order.

All questions are compulsory.

The Question Paper is divided into Three sections Section A to C.

- Section A has 10 questions and attempt only 7. Each carry 1 mark each.
- Section B has 10 questions and attempt only 6. Each carry 2 marks each.
- Section C has 4 questions and attempt only 2. Each carry 3 marks each.

Section-A

1. Why do we need a database? 1
A) To increase redundancy
B) To make data storage inefficient
C) To organize and manage large amounts of data *
D) To replace programming languages
2. Who among the following is responsible for providing access and monitoring usage of the database? 1
A) End User
B) Application Programmer
C) Database Administrator (DBA) *
D) System Analyst
3. Which of these is a type of relational model constraint? 1
A) File constraint
B) Domain constraint *
C) Record constraint
D) System constraint
4. **Referential integrity ensures:** 1
A) Records are always deleted
B) Foreign keys match primary keys in another table *
C) Every field is mandatory
D) All keys are unique
5. The number of attributes in a relation is called its _____. 1
A. Degree * B. Domain C. Cardinality D. Attribute

6. The student with id = 1 changes his name to 'Rahul'. Which command is appropriate? 1
 A) CHANGE students SET name = 'Rahul' WHERE id = 1;
 B) UPDATE students SET name = 'Rahul' WHERE id = 1; *
 C) SET name = 'Rahul' IN students WHERE id = 1;
 D) MODIFY students SET name = 'Rahul' WHERE id = 1;
7. You no longer need the `students` table. Which SQL command will delete it permanently? 1
 A) DELETE TABLE students;
 B) REMOVE students;
 C) DROP TABLE students; *
 D) CLEAR students;
8. What will happen if you try to insert a NULL value into a column defined as a PRIMARY KEY? 1
 A. The NULL value will be accepted
 B. An error will occur *
 C. The NULL value will be replaced by zero
 D. The table will be deleted
9. Identify the **declarative sentence**: 1
 A) Close the door.
 B) Did you eat lunch?
 C) I like reading books. *
 D) Please help me.
10. Which of the following is a **barrier** to active listening? 1
 A) Making eye contact
 B) Asking questions
 C) Interrupting the speaker *
 D) Nodding while listening

SECTION - B

11. Name any two aggregate function used in SQL. 2
 Answer: Sum, Avg, count, min, max
12. Write any two advantages of using a database? 2
Answer: (1 marks each)
 The advantages of using a database include:
Data Consistency – Ensures uniformity of data across multiple users.
Data Security – Provides controlled access to data using authentication and permissions.
Elimination of Redundancy – Prevents duplication by storing data efficiently.
Data Integrity – Ensures accuracy and reliability of data.
13. What are the types of users in DBMS? 2
Answer: End user, Database Administrator, Application programmers and system analyst.
14. What is Not Null Constraint? 2
Answer: The **NOT NULL constraint** is used to ensure that a **column cannot have a NULL (empty) value**. It enforces that **every record must contain a value** in that column.

- 15 What is the purpose of the CHECK constraint in SQL? 2
Answer:
- 16 Write an SQL query to Set salary to a fixed amount (e.g., 60000) for EmployeeID 101. 2
Answer:
 UPDATE Employees
 SET Salary = 60000
 WHERE EmployeeID = 101; } 1 mark for command & 1 for logic+ condition
- 17 Write an SQL query to create a table named Library with the following columns: 2
 BookID INTEGER Primary Key
 Title VARCHAR(100) NOT NULL
 Author VARCHAR(50) NOT NULL
 Price DECIMAL(7,2)
Answer:
 CREATE TABLE Library (
 BookID INT PRIMARY KEY,
 Title VARCHAR(100) NOT NULL,
 Author VARCHAR(50) NOT NULL,
 Price DECIMAL(7,2)
); } -----> 1 mark (opening & closing)
 } 1 mark
- 18 What is aggregate function? 2
Answer: An **aggregate function** in SQL performs a **calculation on a group of values** and returns a **single summary result**. These functions are commonly used with the `SELECT` statement and often in combination with the `GROUP BY` clause.
- 19 What is Active Listening? 2
Answer: **Active listening** is the skill of **fully concentrating, understanding, responding,** and then **remembering** what the speaker is saying. It goes beyond simply hearing words it involves **being mentally present and engaged** in the conversation.
- 20 What is Compound Sentence? 2
Answer: A **compound sentence** is a sentence that has **two or more independent clauses** joined by a **coordinating conjunction** (like *and, but, or, so*, etc.) or a **semicolon (;)**.

SECTION – C

- 21 Write three points what is the need for a databases in organization? 3
Answer:
 1. Efficient Data Management
 2. Data Accuracy and Consistency
 3. Quick Data Access
 4. Data Security
 5. Better Decision-Making
 6. Data Sharing and Collaboration
 7. Backup and Recovery
 8. Cost-Effective Over Time

22 **Define : a. Unique key b. Candidate key** 3

Answer: A **Unique Key** is a constraint in a database that ensures all the values in a column (or a set of columns) are **distinct** across all rows.

- It **prevents duplicate values** in the specified column.
- Unlike the **primary key**, a **unique key can accept NULL values** (but only one NULL per column in most databases).
- A table can have **multiple unique keys**.

A **Candidate Key** is **any column (or set of columns)** in a table that can **uniquely identify** a row.

- A table can have **multiple candidate keys**, but **only one is chosen as the Primary Key**.
- All candidate keys are **unique and non-null**.

23 a. Create a table named Students with the following fields: 3

Column Name	Data Type	Constraints
StudentID	INT	Primary Key
Name	VARCHAR(50)	Not Null
Class	VARCHAR(10)	Not Null
Marks	INT	

b. Insert the following student records into the `Students` table:

StudentID	Name	Class	Marks
101	Riya	12-A	87
102	Aarav	12-B	78

c. Add a new column named `Email` of type `VARCHAR(100)` to the `Students` table.

Answer:

a. **CREATE TABLE Students (**
 StudentID INT PRIMARY KEY,
 Name VARCHAR(50) NOT NULL,
 Class VARCHAR(10) NOT NULL,
 Marks INT
);

b. INSERT INTO Students (StudentID, Name, Class, Marks) VALUES (101, 'Riya', '12-A', 87);

3

INSERT INTO Students (StudentID, Name, Class, Marks) VALUES (102, 'Aarav', '12-B', 78);

c. ALTER TABLE Students ADD Email VARCHAR(100);

- 24 Differentiate between CHAR(n) and VARCHAR(n) data types of MySQL. Give examples to support your answer.

CHAR (n)	VARCHAR (n)
Fixed-length character	Variable-length character
Always stores exactly n characters ; if the input is shorter, it pads with spaces	Stores only the number of characters entered , up to a maximum of n
Slightly faster for fixed-size data	More efficient for variable-size data
Always takes n bytes	Takes only needed bytes + 1 or 2 for length info
Data with fixed size (e.g., PINs, fixed codes)	Data with variable size (e.g., names, emails)

**** ALL THE BEST ! ****