

Database Management System (313302)

MSBTE K-Scheme · Important Questions (repetition analysis of previous papers)

Based on MSBTE papers S-2024...S-2026 available on msbte.ac.in (papers used: W-24, S-25, W-25, S-26). Practice guidance only — not a prediction of the exam. Probability: **High** = asked in 3–4 of the 4 papers, **Medium** = 2 papers, **Low** = once or not yet asked but in the syllabus. “Asked in” shows question number and marks. The last column shows where the topic is covered in our model papers (Set A / B / C).

Most repeated topics

#	Topic	Unit	Papers	Times asked
1	SQL queries on a given table (SELECT / UPDATE / DELETE / ALTER)	III	4 of 4	5
2	Sequence — use, CREATE / ALTER SEQUENCE, NEXTVAL	III	4 of 4	5
3	Codd’s rules (explain any four / state any two)	I	4 of 4	4
4	Hierarchical vs network data model	I	4 of 4	4
5	Data abstraction — three levels with diagram	I	4 of 4	4
6	Normalization — define, levels, 2NF / 3NF with example	II	4 of 4	4
7	E-R diagram for a system (library ×2, college, hospital)	II	4 of 4	4
8	Create user, GRANT and REVOKE privileges	V	4 of 4	4
9	Views — define, create, query, drop	III	3 of 4	4
10	Simple PL/SQL loop programs (odd / even / sum / range)	IV	3 of 4	4

Unit I — Introduction to Database System (syllabus weight 12 marks)

Question / topic	Marks	Asked in	Probability	Model sets
Codd’s rules (explain any four / state any two)	2 M, 4 M	S-26: Q2a 4M W-25: Q1b 2M S-25: Q2a 4M W-24: Q3a 4M	High	A2a, B1b, C2a
Hierarchical vs network data model	2 M, 4 M	S-26: Q1a 2M W-25: Q2b 4M S-25: Q3a 4M W-24: Q1a 2M	High	A1b, B2a, C1b
Data abstraction — three levels with diagram	2 M, 4 M	S-26: Q4a 4M W-25: Q2a 4M S-25: Q1a 2M (define) W-24: Q3b 4M	High	A2b, B1a, C2b
Advantages of DBMS over file processing system	4 M	S-26: Q3a 4M S-25: Q4b 4M W-24: Q2a 4M	High	A3a, C3a
Define data, database, DBMS	2 M	W-25: Q1a 2M S-25: Q1a 2M	Medium	A1a, C1a

Two-tier and three-tier client-server architecture	4 M	S-26: Q4b 4M S-25: Q4a 4M	Medium	A4a
Instance vs schema; data independence	4 M	W-24: Q4b 4M	Low	B4a
Overall structure of DBMS (query processor, storage manager)	6 M	W-25: Q5a 6M	Low	C5a

Unit II — Relational Data Model (syllabus weight 12 marks)

Question / topic	Marks	Asked in	Probability	Model sets
Normalization — define, levels, 2NF / 3NF with example	2 M, 4 M	S-26: Q1b 2M W-25: Q1d 2M S-25: Q2b 4M W-24: Q3c 4M	High	A3c, B1c, C3b
E-R diagram for a system (library ×2, college, hospital)	4 M, 6 M	S-26: Q5a 6M W-25: Q3a 4M S-25: Q6b 6M W-24: Q2b 4M	High	A5a, B5a, C5b
Relational terms — relation, tuple, domain, attribute	2 M, 4 M	S-26: Q3b 4M W-25: Q1c 2M	Medium	C1f
E-R diagram symbols	2 M	S-25: Q1b 2M W-24: Q1b 2M	Medium	A1f
Strong vs weak entity set (with E-R diagram)	4 M, 6 M	S-25: Q5a 6M W-24: Q4c 4M	Medium	B3b
Composite / multivalued / derived attributes	4 M, 6 M	W-25: Q2c 4M S-25: inside Q6b 6M	Medium	B2b
Keys — super, candidate, primary, foreign	2 M, 6 M	S-26: Q1c 2M W-24: Q6c 6M	Medium	A6c, C1c
Parent-child (Dept-Emp) relationship, referential integrity	4 M, 6 M	S-26: Q2b 4M W-25: Q5b 6M	Medium	B6a

Unit III — Interactive SQL and Performance Tuning (syllabus weight 18 marks)

Question / topic	Marks	Asked in	Probability	Model sets
SQL queries on a given table (SELECT / UPDATE / DELETE / ALTER)	4 M, 6 M	S-26: Q5b 6M W-25: Q3b 4M, Q6a 6M S-25: Q2d 4M W-24: Q5a 6M	High	A2d, B5b, C4c
Sequence — use, CREATE / ALTER SEQUENCE, NEXTVAL	2 M, 6 M	S-26: Q6a 6M W-25: Q5c 6M S-25: in Q5b 6M W-24: Q1c 2M, Q5c 6M	High	A5c, B1f, C6a
Views — define, create, query, drop	2 M, 4 M, 6 M	S-26: Q1d 2M, Q4d 4M S-25: in Q5b 6M W-24: Q1c 2M	High	A1d, B4d

CREATE TABLE with constraints (PK, UNIQUE, NOT NULL, CHECK, FK, DEFAULT)	2 M, 6 M	S-25: Q6a 6M W-24: Q1g 2M, Q6b 6M	Medium	A6a, C6c
DDL commands with syntax	2 M	S-26: Q1e 2M S-25: Q1c 2M	Medium	A1e, B2d
String functions	2 M, 4 M	S-26: Q2c 4M S-25: Q1d 2M	Medium	B1d
Aggregate functions	2 M, 4 M	W-25: Q1e 2M S-25: Q3b 4M	Medium	A4c
GROUP BY / HAVING (group-wise total, average)	4 M, 6 M	S-26: Q4c 4M W-24: Q6b 6M (ii, iii)	Medium	C2c, C6c
Index — define, types	4 M, 6 M	W-25: Q4a 4M S-25: in Q5b 6M	Medium	C4a
Types of joins	4 M	W-24: Q4d 4M	Low	B3c
Set operators	4 M	S-25: Q4c 4M	Low	B4c
Sub-queries (nested queries)	—	Not asked yet (in syllabus)	Low	C4e, A2d
Date / numeric functions	—	Not asked yet (in syllabus)	Low	—

Unit IV — PL/SQL Programming (syllabus weight 18 marks)

Question / topic	Marks	Asked in	Probability	Model sets
Simple PL/SQL loop programs (odd / even / sum / range)	4 M, 6 M	S-26: Q2d 4M W-25: Q4e 4M S-25: Q4e 4M, Q5c 6M	High	A2c, C2d
PL/SQL block structure	2 M	S-26: Q1f 2M W-25: Q1f 2M W-24: Q1e 2M	High	A1c, C1d
Exceptions — types, predefined and user-defined	2 M, 4 M	S-26: Q3c 4M S-25: Q1e 2M W-24: Q4e 4M	High	A4b, C4b
PL/SQL program with exception handling	4 M, 6 M	S-26: Q5c 6M W-25: Q3c 4M W-24: Q5b 6M	High	A5b, B5c
Cursor — define, steps of explicit cursor	4 M, 6 M	S-26: Q4e 4M W-25: Q6b 6M S-25: Q3c 4M	High	A3d, B4e, C5c
Stored function / procedure programs	4 M, 6 M	S-26: Q6b 6M W-25: Q4e 4M W-24: Q6a 6M	High	A6b, B6c
Largest of three numbers (PL/SQL)	4 M	W-25: Q4c 4M S-25: Q2c 4M	Medium	B2c
Function vs procedure	4 M	W-25: Q2d 4M W-24: Q2d 4M	Medium	C3c
Triggers — applications, example	2 M, 4 M	S-25: Q4d 4M W-24: Q1f 2M	Medium	B3d, C1g

Advantages of PL/SQL	2 M	S-25: Q1f 2M	Low	B1e
PL/SQL data types	2 M	W-25: Q1g 2M	Low	C1e

Unit V — Database Administration (syllabus weight 10 marks)

Question / topic	Marks	Asked in	Probability	Model sets
Create user, GRANT and REVOKE privileges	4 M, 6 M	S-26: Q6c 6M W-25: Q4b 4M S-25: Q6c 6M W-24: Q4a 4M	High	A4d, B6b, C4d
ACID properties of transaction	4 M	S-26: Q3d 4M W-25: Q3d 4M W-24: Q3d 4M	High	A3b, B4b, C3d
Physical vs logical backup	4 M	W-25: Q4d 4M S-25: Q3d 4M	Medium	A4e
Big Data characteristics	2 M	S-25: Q1g 2M W-24: Q1d 2M	Medium	A1g
Types of database users	4 M	W-24: Q2c 4M	Low	B3a
Data warehouse (define)	2 M	W-25: Q1c 2M	Low	C1a
Causes of database failure	2 M	S-26: Q1g 2M	Low	B1g
Roll forward / roll back recovery	6 M	W-25: Q6c 6M	Low	C6b
Transaction states	—	Not asked yet (in syllabus)	Low	—
Data mining, data lakes, MongoDB / DynamoDB (NoSQL)	—	Not asked yet (in syllabus)	Low	—

Paper pattern (same in all four papers)

Q.	Attempt	Marks
1	any FIVE of 7 (2 marks each)	10
2	any THREE of 4 (4 marks each)	12
3	any THREE of 4 (4 marks each)	12
4	any THREE of 5 (4 marks each)	12
5	any TWO of 3 (6 marks each)	12
6	any TWO of 3 (6 marks each)	12
	Total (3 hours)	70

Note: This is an **important-questions list prepared by Ananda Technologies** only for practice and exam preparation, based on the pattern of previous MSBTE question papers and the K-scheme syllabus. It is **not an official MSBTE paper**, and it does **not** mean that these questions will come in the exam. Answers follow standard textbook points; marks shown are indicative. Free for students — anandatechnologies.in