PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2025
(Third Semester)

Branch – MATHEMATICS WITH COMPUTER APPLICATIONS

DATABASE MANAGEMENT SYSTEMS

Time: Three Hours   Maximum: 75 Marks

SECTION-A (10 Marks)
Answer ALL questions
ALL questions carry EQUAL marks   (10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Database Management System is a ____ a) collection of queries b) high-level language c) programming language d) storage that modifies and retrieves data.	K1	CO1
	2	The ___ uniquely identifies a tuple in relation. a) foreign key b) candidate key c) super key d) primary key	K2	CO1
2	3	Which of the following is DDL statement? a) Select b) Insert c) Alter d) Delete	K1	CO2
	4	The DROP TABLE statement: a) deletes the table structures only b) deletes the table structure along with the table data c) works whether or not referential integrity constraints would be violated d) is not an SQL statement.	K2	CO2
3	5	Which of the following cannot be used to modify the data in the database? a) delete b) update c) drop d) insert	K1	CO3
	6	The ___ function returns the number of rows in a table or the number of non-NULL values in a column. a) MAX( ) b) AVG ( ) c) SUM ( ) d) COUNT ( )	K2	CO3
4	7	The SQL command used to revoke a previously granted privilege is___. a) deny b) cancel c) revoke d) remove	K1	CO4
	8	The SQL command, used to provide a user with specific access privileges on a database object is ____. a) Permit b) Grant c) Revoke d) Allow	K2	CO4
5	9	In an E-R diagram, a relationship set is represented by___ a) line b) triangle c) diamond d) rectangle	K1	CO5
	10	The number of entities that participate in a relationship is called as___ a) participation b) cardinality c) degree d) connectivity	K2	CO5

SECTION - B (35 Marks)
Answer ALL questions
ALL questions carry EQUAL Marks   (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Formulate the architecture of DBMS.	K6	CO1
		(OR)		
	11.b.	Elaborate the role of keys in database design with suitable examples.		
2	12.a.	Explain the construction of a table in SQL using different data types and also interpret their role.	K5	CO2
		(OR)		
	12.b.	Determine the SQL queries that are used to perform insertion, updation, and deletion of records in a database.		
3	13.a.	Differentiate between nested and correlated subqueries in SQL with examples.	K4	CO3
		(OR)		
	13.b.	Examine the use of SQL aggregate functions with *group by* and *having* clauses.		
4	14.a.	Compare and contrast the inner join and outer join operations in SQL using examples.	K4	CO4
		(OR)		
	14.b.	List the features of embedded SQL with examples.		
5	15.a.	Explain attributes in database design and describe their types with examples.	K5	CO5
		(OR)		
	15.b.	Assess the role of generalization and specialization in enhancing database design using E-R modeling.		

SECTION -C (30 Marks)
Answer ANY THREE questions
ALL questions carry EQUAL Marks   (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Compare and contrast a database schema and relational schema using examples.	K4	CO1
2	17	Examine the effect of SQL set operations on query results with examples.	K4	CO2
3	18	Design a table and create SQL *update* queries to modify data under different conditions.	K6	CO3
4	19	Evaluate the role of views in SQL with suitable examples.	K5	CO4
5	20	Justify the need for removing redundant attributes in E-R diagrams with examples.	K5	CO5